

(23,329)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1912.

No. 754.

OLD COLONY TRUST COMPANY, APPELLANT,

vs.

THE CITY OF OMAHA.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR
THE DISTRICT OF NEBRASKA.

INDEX.

	Original.	Print
Caption, &c., to volume 1.....	a	1
Bill of complaint.....	1	1
Exhibit A—Ordinance No. 826, granting right of way to the New Omaha-Thomson-Houston Electric Light Co., ap- proved December 17, 1884.....	42	27
B—Articles of incorporation of the New Omaha Thom- son-Houston Electric Light Company.....	44	28
C—Ordinance No. 3391, defining the duties of the city electrician, &c., December 24, 1892.....	48	30
D—Ordinance No. 3791, defining the duties of the city electrician, &c., March 26, 1894.....	63	41
E—Ordinance No. 4366, declaring the duties of the city electrician, &c., March 3, 1898.....	89	59
F—Agreement between New Omaha-Thomson-Houston Electric Light Co. and the City of Omaha, March 4, 1902.....	96	64
G—Ordinance No. 5051, requiring wires placed under ground, &c., March 8, 1902.....	100	66
H—Ordinance No. 5433, amending No. 5051, December 20, 1904.....	103	68

	Original.	Print
Exhibit I—Agreement between Omaha Electric Light and Power Co. and City of Omaha, April 12, 1905....	105	69
J—Ordinance No. 6804, providing for an occupation tax, &c., approved August 7, 1909.....	109	72
K—Agreement between the Omaha Electric Light and Power Co. and the City of Omaha, December 31, 1909.....	112	74
L—Deed from Omaha Electric Light and Power Co. to the Old Colony Trust Co., July 1, 1903.....	115	76
M—Deed from Omaha Electric Light and Power Co. to the Old Colony Trust Co., July 8, 1905.....	148	100
N—Deed from Omaha Electric Light and Power Co. to the Old Colony Trust Co., December 1, 1905..	155	105
O—Deed from Omaha Electric Light and Power Co. to the Old Colony Trust Co., June 27, 1908.....	158	107
P—Deed from Omaha Electric Light and Power Co. to the Old Colony Trust Co., January 29, 1910.....	161	108
Q—Bill of complaint in Omaha Electric Light and Power Co. <i>vs.</i> City of Omaha <i>et al.</i>	165	111
Subpoena.....	178½	121
Marshal's return.....	179	122
Answer.....	180	122
Replication.....	215	141
Decree.....	217	142
Assignment of errors.....	218	143
Petition for appeal.....	220	144
Order allowing appeal.....	222	144
Citation and service.....	224	145
Bond on appeal.....	225	146
Præcipe for transcript.....	227	147
Index to volume 1.....	228	147
Clerk's certificate to transcript.....	229	148
Caption, &c., to volume 2.....	229½	149
Caption to depositions.....	231	149
Stipulation to take depositions.....	232	149
Deposition of Wm. Joseph Hammer.....	233	150
Stipulation to take deposition.....	266	164
Deposition of Axel Holme.....	267	165
Complainant's Exhibit 1—Statement of fan-motor service supplied during 1884 to customers by the Edison Electric Illuminating Company of N. Y.....	268	165
Deposition of Wm. Joseph Hammer (resumed).....	274	168
Notary's certificate.....	290	175
Caption to depositions.....	292	176
Stipulation to take depositions.....	293	176
Deposition of A. J. De Camp.....	294	177
Notary's certificate.....	299	178
Caption to depositions.....	301	179
Stipulation to take depositions.....	302	179
Deposition of Thomas A. Edison.....	303	180
Notary's certificate.....	309	182
Caption to deposition.....	311	183

INDEX.

III

	Original.	Print
Stipulation to take depositions	311	183
Deposition of Arthur Perry	312	183
Deposition of W. E. McGregor	323	191
Notary's certificate	327	193
Exhibit 1, J. W. M.—Circular of information respecting the bonds of the Omaha Electric Light and Power Co....	328	193
Complainant's Exhibit A, J. W. M.—Agreement between the Edi- son Electric Light Co. and the Edison Elec- tric Illuminating Co. of Newburgh, October 29, 1883.....	338	199
Stipulation to take depositions, &c.....	370	213
Deposition of Charles D. Woodworth	372	214
Respondent's Exhibit A—Extracts from charter of city of Omaha..	395	225
B—Extract from charter of city of Omaha...	396	226
C—Answer of City of Omaha <i>et al.</i> in case of Omaha Electric Light and Power Co. <i>vs.</i> The City of Omaha <i>et al.</i>	397	226
D—Replication in case of Omaha Electric Light and Power Co. <i>vs.</i> The City of Omaha <i>et al.</i>	408	237
E—Deposition of Edward F. Schwing.....	410	238
F—Deposition of Henry A. Holdrege.....	414	241
G—Deposition of Wm. F. White.....	419	245
H—Deposition of Samuel E. Schweitzer.....	424	249
I—Extracts from record in Omaha Electric Light and Power Co. <i>vs.</i> City of Omaha <i>et al.</i> , being vouchers marked B, C, D, E, F, and G.....	439	253
J—Assignment of errors in Omaha Electric Light and Power Co. <i>vs.</i> City of Omaha, <i>et al.</i>	436	259
K—Extract from brief of complainant.....	437	260
L—Extract from brief of complainant.....	439	261
M—Extract from brief of City of Omaha. ...	441	261
N—Extract from brief of City of Omaha....	442	262
O—Extract from brief of City of Omaha....	444	263
P—Extract from brief of City of Omaha....	445	264
Q—Extract from brief of City of Omaha....	446	264
R—Extract from brief of City of Omaha....	446	264
S—Opinion of Judge Munger.....	447	265
T—Opinion of United States circuit court of appeals	451	268
U—Deposition of Waldemar Michaelson....	464	275
Deposition of Ed. Leeder	467	276
Deposition of Thomas H. Dailey.....	482	284
Respondent's Exhibit X—Proceedings of city council..	484	285
Complainant's Exhibit V—Sections of Compiled Statutes of Ne- braska, 1881	486	286
Complainant's Exhibit VV—Sections of Compiled Statutes of Ne- braska, 1883	490	288
Deposition of W. J. Jenks.....	495	289
Notary's certificate.....	557	327
Index to volume 2	558	327

	Original.	Print
Clerk's certificate to volume 2.....	360	328
Caption, &c., to volume 3.....	360½	329
Index to depositions, &c.....	362	329
Stipulation to take depositions.....	364	330
Deposition of Joseph McGuire.....	366	331
Complainant's Exhibit No. 3—Certificate of incorporation of the Omaha Electric Light and Power Co.....	376	336
No. 4—Bill of sale from New Omaha-Thomson-Houston Electric Light Co. to Omaha Electric Light and Power Co., July 29, 1903.....	382	339
No. 5—Assignment from New Omaha-Thomson-Houston Electric Light Co. to Omaha Electric Light and Power Co., August 1, 1903.....	384	341
No. 6—Deed from New Omaha-Thomson-Houston Electric Light Co. to Omaha Electric Light and Power Co., July 30, 1903.....	389	343
No. 7—Opinion of supreme court of Nebraska in <i>Sharp et al. vs. City of South Omaha et al.</i>	396	346
No. 8—Opinion of supreme court of Nebraska in <i>City of Fremont et al. vs. Nebraska Telephone Co.</i>	605	351
No. 9—Extracts from brief of appellants in <i>City of Fremont et al. vs. Nebraska Telephone Co.</i>	615	356
No. 10—Extracts from brief of appellee in <i>City of Fremont et al. vs. Nebraska Telephone Co.</i>	622	359
No. 11—Opinion of supreme court of Nebraska in <i>City of Plattsmouth vs. Nebraska Telephone Co.</i>	624	360
No. 12—Extracts from brief in <i>City of Plattsmouth vs. Nebraska Telephone Co.</i>	637	366
No. 13—Extracts from brief in <i>City of Plattsmouth vs. Nebraska Telephone Co.</i>	639	367
No. 14—Opinion of supreme court of Nebraska in <i>Caldwell vs. Lincoln Street Ry. Co. et al.</i>	663	377
No. 15—Opinion of supreme court of Nebraska in <i>Caldwell vs. Citizens Street Ry. Co.</i>	682	380
No. 16—Article from the <i>Omaha Bee</i> , September 5, 1884.....	701	384
No. 17—Article from the <i>Omaha Bee</i> , September 12, 1884.....	702	385
No. 18—Article from <i>Omaha Bee</i> , September 15, 1884.....	704	386

INDEX.

v

	Original.	Print
Complainant's Exhibit No. 19—Article from Omaha Herald, December 25, 1879.....	705	396
No. 20—Article from Omaha Herald, December 27, 1879.....	706	397
Deposition of Henry A. Holdrege.....	708	397
Minor R. Huntington.....	726	407
Arthur C. Smith.....	731	410
Thomas C. Byrne.....	737	413
Clyde L. Babcock.....	742	415
Louis Kirschbraun.....	746	417
Frank B. Johnson.....	752	420
Complainant's Exhibit No. 22—Article from Scribner's Magazine for February, 1880.....	758	424
No. 21—List of power customers as of May 1, 1908.....	791	438
No. 2—Articles of incorporation of New Omaha-Thomson-Houston Electric Light Co.....	807	446
No. 1—Act to incorporate the Old Colony Trust Co.....	814	449
Examiner's certificate.....	816	450
Stipulation to take testimony.....	817	451
Deposition of Wm. Dennis Marks.....	819	451
Deposition of Walemar Michaelsen.....	854	471
Examiner's certificate.....	859	473
Index to volume 3.....	860	474
Clerk's certificate to volume 3.....	862	475



a TRANSCRIPT.

No. 130, "Z."

OLD COLONY TRUST COMPANY

vs.

THE CITY OF OMAHA.

Volume Number One (1), Referred to in Certificate of Clerk Shown on Page 229 Hereof.

Index to this volume shown at page 228.

b Pleas before the Honorable William H. Munger, One of the Judges of the District Court of the United States within and for the District of Nebraska, at the April, 1912, Term Thereof.

Case No. 130, Docket "Z."

OLD COLONY TRUST COMPANY

vs.

THE CITY OF OMAHA.

Be it remembered, That on the 2nd day of October, A. D. 1911, a Bill in Equity was filed in my office in the above entitled action, in the words and figures following, to-wit:

1 Z, 130.

Filed Oct. 2, 1911. Geo. H. Thummel, Clerk. C. D.

130, Z.

In the Circuit Court of the United States for District of Nebraska, Omaha Division. In Equity.

OLD COLONY TRUST COMPANY, Complainant,

v.

THE CITY OF OMAHA, Respondent.

Bill of Complaint.

To the Honorable the Judges of the United States Circuit Court for the District of Nebraska:

Old Colony Trust Company, a corporation duly organized and existing under the laws of the State of Massachusetts and having its principal office in the City of Boston in that State, and a citizen of said state, brings this, its bill in equity against the City of Omaha,

a municipal corporation created by and duly organized and established under the laws of the State of Nebraska, and a citizen thereof.

And thereupon your orator complains and says:

1. Old Colony Trust Company is now and ever since a time long prior to the first day of July, 1903, has been a corporation created by and duly organized and established under the laws of the State of Massachusetts, with authority, among other things, to act as trustee under mortgages or trust deeds made by corporations as security for the payment of bonds issued by them, and to that end, and for the purpose of enforcing the security, to acquire, receive, protect, hold and dispose of, in trust, the mortgaged rights, property and franchises.

2. The respondent the City of Omaha is now, and was at all the times hereinafter mentioned, a municipal corporation created by and duly organized under the general laws of the State of Nebraska.

3. Although, prior to 1884, the commercial use of electricity was not so general as it has since become, yet for some years prior to said date, electricity was used in the larger cities of the United States for commercial purposes; and its adaptability for the production of light, power and heat and for other commercial purposes was appreciated. The manner in which these uses and possibilities were made available to the public was by the generation of electricity in some central plant in each community, and the distribution of the electric current or energy, by means of wires, throughout the community, thereby delivering such electric current or energy at the premises of each consumer, such consumer utilizing the same for the production of light, power or heat or for such other purpose, as he desired. In most of the larger cities of the United States, there had been organized and established, prior to 1884, companies whose business it was to generate electricity at a central plant in the city, and to distribute the said electric energy or current by wires throughout such city, to the premises of the consumer thereof, and such current or energy was used by each consumer on his own premises, either in the production of light, power or heat, or for such other purpose as he desired. As the great and predominant use made of the electric current, furnished by the companies mentioned, was for the production of light, the companies themselves became generally known as electric light companies, and the business carried on by said companies became and was generally known as the electric light business. Such companies, except as by contract they

3 operated lights for street lighting, did not furnish light to consumers; the companies furnished merely the current or electrical energy at the premises of the consumer. The consumer utilized the energy as he desired, sometimes producing light, sometimes power and sometimes using the energy for other purposes. And your orator further avers that, prior to 1884, the term "general electric light business" had a well understood and clearly defined meaning, and that said term was generally known, used and understood to define the business of generating electricity at some central station and distributing the same over wires to the premises of the

consumer, the same to be utilized by the consumer for the production of light, power, heat or for any other commercial purpose for which the same should be available. And said meaning of said term was, throughout the year 1884 and ever since then, known and understood and acquiesced in and acted upon generally, in the said City of Omaha, as well as elsewhere throughout the United States.

4. Said City of Omaha, in December, 1884, having then by virtue of the general laws of Nebraska full power so to do, duly enacted an ordinance known as Ordinance No. 826 (a copy of which marked Exhibit "A," is attached to and made part of this bill), by which ordinance the city granted unto The New Omaha-Thomson-Houston Electric Light Company, and unto its successors and assigns, in perpetuity, the right to erect and maintain poles and wires, with all needful appurtenances thereto, in, through and over the streets, alleys and public grounds of said city, for the purpose of transacting a "general electric light business." The ordinance was passed on the 14th day of December, 1884, and was duly approved by the mayor of the city and attested by the city clerk on the 17th day of December, 1884, and it took effect immediately. Said ordinance is in the following terms:

Ordinance No. 826.

"An Ordinance granting the right of way to the New Omaha-Thomson-Houston Electric Light Company and regulating the same, and prescribing penalties for the violation of this ordinance.

Be it ordained by the City Council of the City of Omaha:

SECTION 1. That the New Omaha-Thomson-Houston Electric Light Company, or assigns, is hereby granted the right of way for erection and maintenance of poles and wires, with all the appurtenances thereto, for the purpose of transacting general electric light business through, upon and over the streets, alleys and public grounds of the City of Omaha, Nebraska, under such reasonable regulations as may be provided by ordinance. Provided, that said Company shall at all times, when so requested by the city authorities, permit their poles and fixtures to be used for the purpose of placing and maintaining thereon any wires that may be necessary for the use of the fire department or police of the city; and provided further, such poles and wires shall be erected so as not to interfere with the ordinary travel through such streets and alleys; and provided, that whenever it shall be necessary for any person to move along or across any of said streets or alleys any vehicle or structure of such height or size as to interfere with any of the wires so erected the company operating such poles and wires shall, upon receiving twelve (12) hours' notice thereof temporarily remove said poles and wires from such place as must necessarily be crossed by such vehicle or structure, and provided further, that whenever the City Council shall, by ordinance, declare the necessity of removing from the public streets and alleys of the City of Omaha the telegraph, telephone or

electric poles or wires thereon constructed or existing, said company shall, within sixty (60) days from the passage of such ordinance remove all poles and wires from such streets and alleys by it constructed, used or operated.

5 SECTION 2. Any person who shall interfere, cut, injure, remove, break or destroy any of the poles, wires, fixtures, instruments or other property of the New Omaha-Thomson-Houston Electric Light Company, or assigns, within the corporate limits of this city, shall be deemed guilty of a misdemeanor and on conviction thereof shall be fined in any sum not exceeding One Hundred Dollars.

SECTION 3. This ordinance shall take effect and be in force from and after its passage."

5. At the time of the passage and approval of the said ordinance, the City of Omaha and its officials all knew and understood that the term "general electric light business" comprehended and included the business of generating electricity at some central station, and distributing the same over wires to the premises of the various consumers thereof, such electricity or electrical energy to be utilized by the consumer for the production of light, power or heat or for any other purpose for which the same should be available. And the said City of Omaha and its officials in passing and approving the said ordinance, and in the use of the said term "general electric light business" in said ordinance, used the same with the meaning aforesaid, and intended by said ordinance, to grant to the said New Omaha-Thomson-Houston Electric Light Company and its assigns in perpetuity, a right of way or easement over all the public ways of the City of Omaha, for the purpose of the generation and distribution of electricity or electrical energy, the same to be generated in a central plant or plants and distributed by means of wires throughout the city to consumers thereof, to be by them utilized for the production of light, power, heat or for any other purpose for which the same could be adapted. And at the time of the passage of the ordinance, and at the time of the acceptance thereof and ever since, the grantee in said ordinance knew and understood said term "general electric light business" to comprehend and include

6 the business of generating electricity or electrical energy, at some central plant or plants, and the distribution thereof throughout the streets and public ways of Omaha, to the consumers thereof, such consumers to utilize the same for the production of light, power, heat or for any other practicable purpose to which the same was adapted. The said company accepted the said ordinance and installed its said plant as hereinafter mentioned, understanding the said expression "general electric light business" to have the meaning as above set forth. And the said City of Omaha and its officials, at the time said ordinance was passed and at the time the same was accepted, knew that the said company, in accepting the said ordinance and in constructing its plant as hereinafter set forth, placed upon the terms "general electric light business" as used in said ordinance, the meaning hereinabove set forth, and knew that said company accepted said ordinance and constructed the said plant with

the understanding and belief that the said ordinance granted to said company in perpetuity, a right of way or easement over all the public ways of the City of Omaha, for the purpose of generation, distribution and delivery of electricity or electrical energy for the use by consumers thereof, in the production of light, power, heat or for any other practicable purpose.

6. Your orator further avers, that the passage and approval of the said ordinance of the City of Omaha, and the acceptance of the same by the said New Omaha-Thomson-Houston Electric Light Company, and the erection of the plant by the said company under said ordinance, as hereinafter mentioned, constituted a contract between the said City of Omaha and the said New Omaha-Thomson-Houston Electric Light Company and its assigns, whereby in consideration of the obligations of public service assumed by the

7 said company, there was granted to the said company and its assigns, in perpetuity, a right of way or easement through, upon and over the streets, alleys and public grounds of the said City of Omaha, for the purpose of transacting a general electric light business in the manner as hereinabove set forth; and the said contract and ordinance are still in force and effect as hereinafter set forth, and the obligation of the said contract is protected, by the Constitution of the United States, from impairment by the State of Nebraska and its agencies.

7. Your orator further avers, that under the laws of the State of Nebraska, and the powers of the City of Omaha under the charter of said city, as the same was when said ordinance was passed, approved and accepted, the City of Omaha was given and had the power to grant to the said company and its assigns the right of way and easement above mentioned in perpetuity; and your orator avers that the said laws entered into and became part of the said contract; and the said the New Omaha-Thomson-Houston Electric Light Company in accepting said ordinance and constructing its plant thereunder, as hereinafter set forth, and in all its acts, relied upon the said laws of the State of Nebraska, and entered into said contract with knowledge of and in reliance upon the laws aforesaid.

8. The New Omaha-Thomson-Houston Electric Light Company was incorporated under the general laws of Nebraska in the year 1885 for the purpose and with the power, among others, of transacting the business of constructing, maintaining and operating lines of wire or other conductors for the transmission of electric current from central stations to points of consumption and supplying cities, towns, corporations and individuals with electricity for light and any or all other lawful purposes, such business to be carried on anywhere in the State of Nebraska but with the principal place of business in said City of Omaha. Though The New Omaha-Thomson-Houston Electric Light Company aforesaid was not actually incorporated until after December 14, 1884, the date of the passage of said ordinance, the formation of a corporation to be known by said name and to have powers substantially the same as those which were acquired by the Thomson-Houston Company as aforesaid was at the time in contemplation by the persons who did

in fact incorporate and organize said company, and they formed it with the intent and purpose of having it accept and act under said ordinance. Said intent and purpose were known to the City at the time of the passage of the ordinance, though the City did not know under what laws, whether of the State of Nebraska or some other State, the incorporation would be made, nor know whether the length of its corporate life would be limited or perpetual. A copy of the Articles of Incorporation of said the New Omaha-Thomson-Houston Electric Light Company are hereto attached marked Exhibit "B" and made a part hereof.

9. Your orator further avers, that after the passage and approval of the ordinance aforesaid, the said New Omaha-Thomson-Houston Electric Light Company duly accepted the said ordinance, and did at large cost to itself, construct and put in operation in said City of Omaha, a central station generating plant for the generation of electricity and electric current, and did at large cost, construct and place poles, wires and conductors with necessary appurtenances in divers streets, alleys and public places of the said City of Omaha, the same, together with the said central generating plant, constituting a system for the generation, supply and distribution of electric current to the City of Omaha and the residents thereof, and thereby

placed itself in position to supply electric current to all patrons of the company, the same to be used for light, power, heat or any other commercial purpose for which the same was adapted. The said generating plant and distribution system was constructed and installed and operated by the said company under the ordinance aforesaid, and as the grantee and possessor of the rights and franchises conferred by the said ordinance, and in reliance upon the terms and conditions of the said ordinance as authorizing the construction, installation and operation of the said system as aforesaid. Said generating plant and distribution system have been, during all the time since the construction and installation thereof as aforesaid, maintained, operated and used in the said City of Omaha and in the streets and public places and alleys thereof, by the said New Omaha-Thomson-Houston Electric Light Company and its successor and assign, hereinafter referred to, under and agreeably to the terms and conditions of the said ordinance; and, during all of the period since the construction and installation of the said system, the said company and its assign have actually been engaged in the business, in the City of Omaha, of generating and distributing, by means of the said plant and system, electric current to the said city for lighting its streets and public buildings, and to the said city and to the private and individual consumers thereof in said City of Omaha, and in surrounding territory hereinafter mentioned, for the production of light, power and heat and other commercial purposes, as hereinafter more fully set forth. And the said company and its assign, have for all said time, hitherto, by public advertisement and by solicitation, held themselves out as engaged in the business of generating and distributing to patrons, electric current for use by them, for the production of light, power and heat or

10 for such other purpose as the same might be available. Of all of the said doings of the said New Omaha-Thomson-Houston Electric Light Company and its successor and assign in so constructing, installing and operating and using its plant and electric distribution lines, and in carrying on its said business, the said City of Omaha and its officials at all times, had full knowledge, and the said City of Omaha and its officials during all of said time, acquiesced in and consented thereto; and in the ways herein described, the said City of Omaha and its officials have constantly, since the passage of the said ordinance, dealt with and treated the New Omaha-Thomson-Houston Electric Light Company, its successor and assign, as the rightful owner of the right, franchise and privilege conferred by the said ordinance, and as rightfully engaged in carrying on the business herein described. The said New Omaha-Thomson-Houston Electric Light Company, in the construction and installation of its said plant and distributing system, and in the extension thereof, had expended, prior to the sale and transfer of the same as hereinafter mentioned, more than the sum of \$1,000,000.

That in reliance upon its right to transact the business of furnishing current for heat, power and other commercial purposes under the terms of said ordinance, and under the construction placed upon said ordinance by the City of Omaha and its officials and said company as in this bill set forth, the said company expended large sums of money for the especial purpose of equipping itself to so furnish current for heat, power and other commercial purposes.

10. Your orator further avers, that not only did the City of Omaha, in passing this ordinance above mentioned, and the New Omaha-Thomson-Houston Electric Light Company in accepting the said ordinance and in installing its plant and system as hereinabove

11 mentioned, know and understand that the term "general electric light business," as used in said ordinance, covered and was intended to cover, the business of generating electricity and electrical current and distributing the same throughout the streets and public places of the City of Omaha to the consumers thereof, to be by them used for the production of light, power or heat or for such other purpose as the same might be available, but also the said City of Omaha and its officials and the said company, in the carrying out of the said ordinance and its provisions, and in the acts of the said City and company with respect thereto, placed a like and practical interpretation upon the said term and the said ordinance, and both of the parties to said contract continuously and repeatedly since the same was entered into as aforesaid, have in various ways practically construed the said ordinance as granting to the said company and its assign the rights as hereinabove set forth.

11. Your orator further avers that on December 20th, 1892, there was duly passed by the City of Omaha, an ordinance known as Ordinance Number 3391, a correct copy of which ordinance is hereto attached marked Exhibit "C" and made a part hereof; said ordinance was duly approved on the 24th of December, 1892. The said ordinance defined the duties of the city electrician, and established rules and regulations concerning electric work, wires and

poles, and specifically regulated the methods of installing and wiring where electricity was to be used for power purposes, and provided for the manner in which the wires which carried electricity for power purposes, should be insulated and strung upon the streets, and for the connection between such wires and the premises where electric current was to be used for power purposes. During the entire time said ordinance was in force, the said the New Omaha-Thomson-

12 Houston Electric Light Company in all respects obeyed said ordinance and complied with its provisions, to the satisfaction of the City of Omaha and its officials. While the said ordinance was in force and effect, very many inspections were made by the said city and its officials, and permits issued in respect to connections between the wires of the said New Omaha-Thomson-Houston Electric Light Company upon the streets of Omaha, and various premises where electric current from such wires was to be used by the consumers for power purposes. And the records and reports of such connections and the use of the said current transmitted by the wires of the said company for power purposes, were duly and properly lodged, as provided in said ordinance, in the proper offices of the City of Omaha.

12. Your orator further avers that, on March 20th, 1894, there was duly passed by the City of Omaha, an ordinance known as Ordinance Number 3791, which said ordinance was duly approved on March 26th, 1894; a correct copy of which said ordinance is hereto attached and made a part hereof, and marked Exhibit "D." The said last mentioned ordinance duly repealed said ordinance Number 3391, and provided other and specific regulations with respect to the insulation and wiring and apparatus for electric light and power. The said New Omaha-Thomson-Houston Electric Light Company in all respects obeyed the said ordinance and complied with its provisions to the satisfaction of the City of Omaha, and the installing, insulation and connection of very many wires of the said New Omaha-Thomson-Houston Electric Light Company with the premises of consumers, where electricity conveyed by said wires was to be used for power purposes, were made and inspected and supervised by the said City and its officials, under and pursuant to the said last mentioned ordinance.

13 13. Your orator further avers that, on March 1st, 1898, said City of Omaha duly passed an ordinance known as Ordinance Number 4366, which was duly approved on March 3rd, 1898, a correct copy of which said ordinance is hereto attached and made a part hereof, marked Exhibit "E"; in and by said last mentioned ordinance, it was provided "no electric current shall be used for illumination, decoration, power or heating, except as hereinafter provided." And said ordinance specifically provided for the inspection and control and regulation of the connecting, installing and insulation of wires to be used for the conveying of electricity for light, power and heating purposes. The said New Omaha-Thomson-Houston Electric Light Company in all respects, obeyed said ordinance and complied with its provisions to the satisfaction of said City of Omaha and its officials, and under and pursuant to

the last mentioned ordinance, very many of its wires were, under the supervision of said city and its city electrician, installed and insulated by the said New Omaha-Thomson-Houston Electric Light Company and were connected with the premises of many consumers to be used, and were used, for the transmission of electric current to the premises of said consumers, to be by them used for the purpose of the production of light, power and heat, and for other purposes.

14. Your orator farther avers that, on the 4th day of March, 1902, a contract was duly executed by and between the City of Omaha and the New Omaha-Thomson-Houston Electric Light Company, a copy of which contract is hereto attached marked Exhibit "F" and made a part hereof. In and by said contract, in consideration of the payment to be made as therein provided for the furnishing of electric light to light the streets of the City of Omaha,

the said New Omaha-Thomson-Houston Electric Light Company agreed to pay to the City of Omaha by the terms of said contract, a royalty in a sum equal to three per cent (3%) of its gross receipts from the business done within the city, not including any revenues from the city. In compliance with the terms of the said contract, the said New Omaha-Thomson-Houston Electric Light Company on the 3rd of March, 1903, paid to the City of Omaha as and for the amount of royalty due the said City from said company under said contract for the year 1902, the sum of \$5,683.90; said payment was made to the said City by voucher, and the receipt thereof acknowledged upon said voucher, said voucher and receipt being as follows:

"The New Omaha-Thomson-Houston Electric Light Company
to A. H. Hennings, City Treas., Dr.

Address, Omaha, Neb.

1902. For 3% bonus on gross receipts for 1902 per contract.

Gross earnings for arc and incandescent light service, exclusive of business done with the City.....	\$144,459.09
Gross earnings for power service.....	48,546.38
	<hr/>
Amount uncollected for arc and incandescent service	\$193,005.47
Amount uncollected for power service..	\$2,234.90
	1,307.37
	<hr/>
3%	\$189,463.20
	5,683.90

Correct.

C. E. SCHWEITZER,
Sec'y & Treas.

Approved.

— — —, Gen'l Mgr.

Approved.

F. A. NASH, President.

OMAHA, NEBRASKA.

Received March 3, 1903, from the New Omaha-Thomson-Houston Electric Light Company Fifty-six Hundred Eighty-three and 90-100 Dollars in full for the above.

A. H. HENNINGS,

City Treasurer.

F. B. BRYANT, *Deputy.*"

15 15. Your orator further avers that, on the 5th day of March, 1902, the City of Omaha duly passed an ordinance known as Ordinance Number 5051, which said ordinance was duly approved March 8th, 1902, a correct copy of which said ordinance is hereto attached marked Exhibit "G," and made a part hereof. The said last mentioned ordinance ordained and required that "all persons and companies owning, maintaining or operating electric wires or other wires in the City of Omaha and in the districts hereinafter defined, for the transmission of electricity for light, heat and power, shall on or before the first day of May, 1903, place under ground, all such wires," etc. That at the time of the passage of said ordinance, the said New Omaha-Thomson-Houston Electric Light Company owned and maintained a large number of electric wires operated for the transmission of electricity for light, heat and power within the district defined in said ordinance; and thereupon, pursuant to the said ordinance, the said New Omaha-Thomson-Houston Electric Light Company did enter upon the work of placing its said wires within the district aforesaid under ground, and did lay certain conduits throughout said district, and place therein its said wires at a cost to said company of \$203,315.65; and, pursuant to said ordinance, the said company did furnish to the Board of Public Works of said city, the map, plans and details of said work, showing the wires used for light, power and heat service placed by said company under ground as above set forth, and in all respects the said company did obey said ordinance and comply with the provisions to the satisfaction of said city and its officials.

16 16. Your orator further avers, that on the 2nd day of February, 1898, the Supreme Court of the State of Nebraska, in a suit then pending before said court, did duly decide and announce the law of Nebraska to be, that municipal corporations in the State of Nebraska, having charter provisions similar to those of the City of Omaha throughout the year 1884 were invested with an ample grant of power, unqualified as to time, to regulate the use of the streets of such cities by granting the right of the use thereof to public service corporations, such as electric light companies.

17. Your orator further avers that prior to June, 1903, the said New Omaha-Thomson-Houston Electric Light Company, having been duly thereunto authorized by the City of South Omaha, and the Villages of Dundee and Benson, did extend its said system of distribution from the city limits of the City of Omaha, into and throughout the City of South Omaha, and the Villages of Dundee and Benson, and did furnish to its patrons in said last mentioned city and villages, through its said distributing system from its gener-

ating plant in the City of Omaha, electrical energy or current which was used by its said patrons in said City of South Omaha, and in said Villages of Dundee and Benson for the production of light, power, heat and such other purposes as were practicable. And the said company had so carried on said business in said City of South Omaha and in said Villages of Dundee and Benson, for some years prior to 1903.

18. Your orator further avers that in July, 1903, the Omaha Electric Light & Power Company, a corporation organized under the laws of the State of Maine, did duly purchase of and from the said New Omaha-Thomson-Houston Electric Light Company, for a valuable consideration, all of the property, rights, franchises, contracts, good will, privileges and assets of all kinds of the said New Omaha-Thomson-Houston Electric Light Company. That the said New

17 Omaha-Thomson-Houston Electric Light Company did thereupon duly convey, transfer and deliver to the said Omaha Electric Light & Power Company, all of the said property, rights, franchises and privileges and the said last named company did duly, as the assign of the said New Omaha-Thomson-Houston Electric Light Company, take possession of all of said property, rights, franchises and business and good will, and has ever since conducted the said business and has developed and extended the same as hereinafter set forth.

19. Your orator further avers, that the said Omaha Electric Light & Power Company purchased the said plant and property as above set forth, and paid for the same with full knowledge of all the facts aforesaid, and relying upon the same and with full knowledge of the law of Nebraska as hereinabove stated, and relying upon the same, and with full knowledge of the construction given to the said Ordinance Number 826 by the said City of Omaha, its officials and the said New Omaha-Thomson-Houston Electric Light Company at the time said ordinance was passed and accepted, with the full knowledge of the like practical construction placed upon said ordinance by the said City and its officials, and the said company, throughout the years intervening between the time of the passage of the said Ordinance and July, 1903, as hereinabove set forth, and in full reliance upon the same. And the said Omaha Electric Light & Power Company purchased the said plant, property and rights and paid for the same and entered into possession thereof, and has since operated the same, believing and understanding that by the said ordinance Number 826, there passed to it as the assign of the said New Omaha-Thomson-Houston Electric Light Company, a grant of a right of way over the public streets, alleys and public places of the City of Omaha, in perpetuity, for the business of generating electricity or electrical current and distributing the same throughout the streets, alleys and public places of the City of Omaha to the patrons of said company, the same to be used by said patrons for the production of light, power, heat or such other purpose as might be practicable.

And the City of Omaha and its officials at the time of the purchase aforesaid and ever since then, knew that said Omaha Electric

Light & Power Company purchase? said plant and paid for the same with knowledge of the facts aforesaid, and in express reliance thereon.

20. Your orator further avers that, since the purchase of the said plant, rights and business by the said Omaha Electric Light & Power Company, said company has continued to maintain and operate the generating plant and distributing system above mentioned, and has constantly extended and improved the same, and has constantly carried on through said plant and system, the business of generating and distributing electrical current to its patrons, which was used by them for the production of light, power or heat or other purpose as desired. The said company has not only extended the said plant and system throughout the City of Omaha, but has also extended the same throughout adjoining communities, and the said company, through its said plant and distributing system, as extended, does now, and for some years last past has, generated and distributed electrical current for use for the production of light, power and heat not only throughout the City of Omaha, but also throughout the adjoining communities of Council Bluffs, Iowa, and South Omaha, Benson, Florence, Dundee, Fort Crook, Bellevue, and East Omaha, and also to various districts in the State of Nebraska, outside of the corporate limits of any of the cities and villages named.

21. Your orator further avers, that it is impossible absolutely and accurately to separate the earnings of said company derived from the consumption of electric current for power and heat and other purposes, from the revenue derived from the consumption of electric current for the purpose of light, because very many consumers use the electric current delivered at their premises by said company, sometimes for power, sometimes for light, and sometimes for heat, the company being without absolute knowledge with respect thereto. And, therefore, in the revenue of the company, as credited to the consumption of electric current for light, there is necessarily included some revenue for current which was used for power or for heat or for both. But your orator further avers that as nearly as it is possible for the same to be ascertained, the following statement, showing the continuous and uninterrupted development of the business of said company not only in the furnishing of electric current for light purposes, but also for the purpose of power, is a correct statement of the yearly gross earnings of the said company and its grantor company, from the year 1890 to the year 1910 inclusive, as well as for six months of the year 1911. Said statement is as follows:

Gross Earnings.

	Light.	Power.	Misc.	Total.
1890	\$72,963.39	\$1,725.75	\$3,740.00	\$78,429.14
1891	104,646.63	4,237.67	4,160.00	113,044.30
1892	116,811.83	6,331.30	.....	123,143.13
1893	137,741.16	11,164.10	50.00	148,955.26
1894	115,934.06	11,776.98	.....	127,711.04
1895	104,413.00	12,791.18	.....	117,204.18
1896	97,785.00	14,793.50	.....	112,578.50
1897	100,691.19	16,041.71	.....	116,733.90
1898	150,099.53	23,794.91	.....	173,894.44
1899	162,836.40	28,009.61	.....	190,846.01
1900	168,757.86	36,393.41	.....	205,151.27
1901	204,061.89	42,500.22	.....	246,562.11
1902	235,384.28	48,546.38	233.75	284,164.31
1903	261,421.89	50,390.11	534.60	312,346.60
1904	294,492.99	54,817.01	403.60	349,713.60
20				
1905	342,969.69	69,367.05	410.67	412,747.41
1906	427,969.16	98,463.50	1,052.50	527,485.16
1907	499,607.66	129,885.57	799.52	630,292.75
1908	563,447.57	130,537.72	893.27	694,878.56
1909	638,462.37	153,634.81	997.80	793,094.98
1910	718,763.77	195,800.65	5,802.92	920,367.34
1911	399,270.04	98,145.13	1,822.74	499,237.91
(Six Months.)				

22. Your orator further avers that, since the purchase of the said rights and property by said Omaha Electric Light & Power Company, and the development of its said business as aforesaid, very many hundreds of wires have been installed by said company in the streets of the City of Omaha, and many hundreds of connections have been made from said wires to the premises of various consumers for the distribution of electricity known to be used for power purposes; and all of said hundreds of installations and connections have been made under the direct supervision of the City of Omaha through its city electrician, and have all been inspected and passed upon by the said city through its said city electrician, pursuant to the ordinances of said city hereinabove referred to, and full and complete reports of said inspections have been made yearly by the said city electrician to the mayor and city council of the said City of Omaha.

23. Your orator further avers that, pursuant to its said contract of purchase, the said Omaha Electric Light & Power Company continued to make the payment of royalties to the City of Omaha as called for by the contract above referred to, dated March 4th, 1902, hereinabove referred to as Exhibit "F," the first of said payments being made January 15th, 1904, constituting the royalties for the year 1903. The said payment was by voucher and the receipt of the City is thereto attached, the said voucher and receipt being as follows:

"Voucher Check.

To A. H. Hennings, City Treas., Address, Omaha, Neb.

1903. Invoice No. —

For duly authorized account as per invoices on file in Treasurer's office Dec. 31 Bonus as per contract on Gross Receipts within City of Omaha for year 1903:

Gross receipts from Arc Service	\$36,431.97
Gross receipts from Incandesc. Serv.....	159,261.79
Gross receipts from Power "	49,303.86
	<hr/>
	\$244,997.62

Deduct—

Amount received from city.....	\$37,529.44
	<hr/>
	\$207,468.18

3% on above total	\$6,224.05
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Approved for payment.

F. A. NASH, *President.*

Examined and entered.

S. E. SCHWEITZER,
Sec'y and Treas.

Date issued: Jan. 15, 1904—No. 1133.

Received from Omaha Electric Light and Power Company, \$6,224.05 Sixty Two Hundred Twenty Four and 05-100 Dollars in full payment of above account.

A. H. HENNINGS, *City Treas.,*
By I. L. BEISEL, *Deputy.*
OMAHA ELECTRIC LIGHT AND
POWER CO.,
S. E. SCHWEITZER, *Treasurer.*"

Subsequently, and during the life of said contract, by similar vouchers, said company paid yearly to said City of Omaha, and the City of Omaha received, the royalties as provided by said contract.

24. Your orator further avers that, on the 18th day of May, 1904, the Supreme Court of the State of Nebraska in a case then pending before said court, decided that an ordinance similar to the
22 said Ordinance Number 826, vested in a public service corporation, a grant in perpetuity of a right of way or easement over all the public ways of the city, without restriction or limitation, and that cities in Nebraska, having charter powers similar to those possessed by the City of Omaha in 1884, had the delegated power to grant such perpetual right over their public ways, streets and alleys to public service corporations.

25. Your orator further avers that the law of Nebraska as so declared and as theretofore declared, as hereinabove set forth, constitutes a rule of property, upon the faith of which, large sums of money were expended by the said Omaha Electric Light & Power Company in developing, maintaining and extending its system as above set forth, and large sums of money were invested in the bonds of the said Omaha Electric Light & Power Company as hereinafter more specifically set forth. All of which was at said time, and ever since has been well known to the City of Omaha and its officers.

26. Your orator further avers that, on the 13th day of December, 1904, the City of Omaha passed a certain other ordinance known as Number 5433, enlarging the district within which all companies, maintaining electric wires for the transmission of electricity for light, heat and power, should place such wires under ground; which said ordinance was approved December 20th, 1904; a copy of said ordinance is hereto attached marked Exhibit "H" and made a part hereof. Your orator avers that, pursuant to said ordinance and in response to its requirements, the said Omaha Electric Light & Power Company placed its wires used for the transmission of electricity and electric current for light, heat and power purposes, under ground within the district named in said ordinance, at a cost to it of \$276,600.54 and also expended \$13,176.00 in completing the work of placing under ground, the wires within the district provided by the ordinance above referred to, known as Ordinance Number 5051.

The said company completed the said work and the compliance with said ordinance on the first day of October, 1905, which was the earliest time at which, with all possible dispatch, the said work could have been performed.

27. Your orator further avers that, on April 12th, 1905, the City of Omaha and the Omaha Electric Light & Power Company entered into a certain contract, a copy of which is hereto attached marked Exhibit "I" and made a part hereof, in and by which contract the said Omaha Electric Light & Power Company agreed to light the streets of the City of Omaha as therein provided, and did further agree as follows:

"And in further consideration of the terms hereby agreed upon, the company hereby agrees to pay, during the term, to the city, a sum equal to three per cent. (3%) of its gross receipts from the lighting and power business done within the city," etc.

Your orator further avers that in compliance with the terms of the said contract, the said Omaha Electric Light & Power Company, on the 31st day of December, 1905, paid to the City of Omaha as and for the amount of royalty due the said City from said company under said contract for the year 1905, the sum of \$8,449.40; said payment was made to the city by voucher and the receipt thereof acknowledged upon said voucher, said voucher and receipt being as follows:

• "Voucher Check.

To A. H. Hennings, City Treasurer. Address, Omaha, Neb.

1905. Invoice No. —.

Dec. 31. For duly authorized account as per invoices on file in Treasurer's office Bonus as per Terms of City Contract for 1905.

Gross receipts from Arc & Inc. Serv. \$268,127.50

Gross receipts from Power " 64,577.95

Total \$332,705.54

Less amount received from city 51,058.73

\$281,646.81

3% on this amount \$8,449.40

Approved for payment:

F. A. NASH, *President*.

Examined and entered:

S. E. SCHWEITZER,
Sec'y and Treas.

Date issued: Jan. 29, 1906. No. 5976.

Received from Omaha Electric Light and Power Co. \$8,449.40
Eighty-four Hundred Forty-nine and 40-100 Dollars in full payment of above account.

A. H. HENNINGS, *City Treas.*

I. L. BEISEL, *Deputy*.

OMAHA ELECTRIC LIGHT
AND POWER CO.,

By S. E. SCHWEITZER, *Treasurer*.

Subsequently, and during the life of said contract, by similar vouchers, said company paid yearly to the City of Omaha and the City of Omaha received the royalty as provided in said contract.

28. Your orator further avers that at the time the ordinance last above mentioned and the contract last above mentioned were passed and entered into, neither the City, its officers nor the said company entertained any belief that the right of the said company to use the streets, alleys and public places of the City of Omaha for the purposes as hereinabove set forth, would soon expire, but on the contrary, at the time the said ordinance was passed and the said contract entered into, both the City of Omaha and its officers and the said company understood and believed and relied upon such understanding and belief that the rights of the said company had not and would not soon expire; but that said company had a right unlimited as to time, to the use of the streets and alleys and public places of the City of Omaha, for the purposes as hereinabove set forth.

29. Your orator further avers that, on the 7th day of August, 1909, the City of Omaha passed an ordinance known as Ordinance

Number 6804, a copy of which is hereto attached marked Exhibit "J" and made a part hereof. Said ordinance was duly approved, August 7th, 1909. It provides an assessment and occupation tax on corporations engaged in the sale of electricity for light, heat or power purposes in the City of Omaha. Your orator avers that, by said ordinance, the occupation tax is the sum and amount of three (3%) per cent of the gross receipts of such corporation, derived from its business of selling such electricity to inhabitants of the City of Omaha. Your orator further avers that the said Omaha Electric Light & Power Company, pursuant to said ordinance, has paid to the City of Omaha as and for said occupation tax, and the City of Omaha has demanded and received from said company, as and for such occupation tax, three (3%) per cent of the gross receipts of said company for the sale of electricity for light, heat and power purposes.

30. Your orator further avers that, on the 31st day of December, 1909, the said City of Omaha and the said Omaha Electric Light & Power Company entered into a certain contract, a copy of which is hereto attached, marked Exhibit "K," whereby, in consideration of payments made therefor, the said company agreed to maintain in said city, certain lights for the lighting of certain streets therein, and in and by which said contract it is provided in part, as follows:

"It is further agreed that during the term of this contract, the company will pay to the city a sum equal to three per cent (3%) of its gross receipts from lighting and power business done within the city," etc.

Your orator avers that the said company has made to said city, pursuant to said contract, itemized statements of its gross receipts for the sale of electricity for light and power, separating the same as in the vouchers heretofore set forth, and has paid to the city and the city has received the payments on the said contract as therein provided.

31. Your orator further avers that, for many years, the City of Omaha not only recognized the right of the said Omaha Electric Light & Power Company and its grantor company, under said Ordinance Number 826, to utilize the streets, alleys and public places of the City of Omaha for the distribution of the electric current used by the consumers thereof for light and power and other purposes, as hereinabove set forth, but the City of Omaha has itself, for many years, purchased, from the said company, electric current to be used by said city in various ways and in various places, for power purposes. Your orator further avers that, since March, 1908, the City of Omaha has owned and operated a plant for the preparation and placing of material for the repair of asphalt pavements, which plant is known as the Asphalt Repair Plant; in said asphalt repair plant is a power plant, operated by electrical energy; that the City of Omaha and its officials duly made application to the Omaha Electric Light & Power Company for the service of supplying through its plant and distributing system aforesaid, electric energy to be used by the City of Omaha for power purposes in the

operation of its said power plant; that connection between
27 said power plant and the wires of said company was duly made, and, since 1908 continuously, throughout the years following, while the plant was in operation, the City of Omaha has utilized the electric current supplied to it at said plant, over the wires of the said company, in the operation of its machinery and for purely power purposes. Your orator further avers that the City of Omaha operates in connection with what is known as its "Cross Walk Department," a plant in said city, and has operated the same since April, 1910. That in said month, the City of Omaha made application for electric current, to said company, to be supplied at said cross walk power plant, to be used by the said city at said plant for power purposes; that said connection was duly made between said plant and the wires of said company, and since said date said plant has been operated by electric energy furnished by said plant through its distributing system, and used by the City of Omaha for power purposes as above set forth. Your orator further avers that, in the year 1911, the City of Omaha made application to said company for a supply of electric current to be used by said city at the City Hall for power purposes for operating passenger elevators in said City Hall; the said connection was duly made, and, since that time, electric current has been supplied by the said company to the said city through its plant and distributing system and utilized by the city in the City Hall, for power purposes, in operating the elevators, as aforesaid. Your orator further avers, that the Board of Education of said city, beginning in October, 1905, at various times, has made application to the said company for a supply of electric current to be used for power purposes in various public school buildings of the City of Omaha; that said connections were made, and ever since then, the electric current has been furnished by said company through its plant and distributing system to the
28 public schools aforesaid, and there utilized for power purposes. That the City of Omaha and Board of Education have regularly paid to the said company, the contract price for the electric current furnished as aforesaid by said company and utilized by the City of Omaha and its Board of Education for power purposes. In addition to the foregoing, the City of Omaha has for very many years, through the City Hall and various other buildings, utilized the electric current furnished by said company and its grantor for power purposes, in the operation of fans, and in other ways.

32. Your orator further avers that the electric current generated, carried and supplied by the said company under its said franchise, is now and has been for a long time, very extensively used by the public generally, for domestic and manufacturing purposes; that very many important commercial and manufacturing plants have been equipped at great expense, by the owners thereof, for operation by electric power; and they have become and are dependent upon said company for such service; that all of said plants have been so equipped and have been in use in reliance upon the facts aforesaid; and in reliance upon the right of the said company to use the

streets, alleys and public places of the City of Omaha for the transmission of electric current for the purposes of light, power and heat; that with the exception of a small amount of electric current furnished by the Omaha & Council Bluffs Street Railway Company for power purposes, no company in Omaha is equipped or attempts to furnish electric current to the public for use either for light, power or other purpose; that the said Omaha Electric Light & Power Company, relying upon the facts hereinabove set forth, has expended very large sums of money in the development, improvement and equipment of its plant and lines, to the end that it might
 29 have and employ the most economical machinery and devices for developing and distributing and supplying electric current to meet the demands of the public therefor. And that there has been invested in the said plant and equipment of the lines now used by the said company, millions of dollars all of which was invested in reliance upon the facts hereinabove set forth. The electric current consumed for power and heat, is demanded and furnished by said company generally during the day time when the consumption for electric light is least, and the electric current consumed for producing light is to a large extent demanded during the night time when the demand for power and heat is least. By keeping its said plant and system in continuous operation and as nearly as possible to its full producing capacity, the said company is able to serve the public at the least cost and to give the public the benefit of low prices; and the said electric lighting system has been built up as hereinabove described, in reliance upon the facts above set forth.

33. Your orator further avers that it is the law of Nebraska that, by reason of the facts hereinabove set forth, the City of Omaha and its officials are estopped to deny the right of the said Omaha Electric Light & Power Company and of the complainant herein as mortgagee of said property to use the streets, alleys and public places of the City of Omaha for the generation, transmission and delivery of electric current for light, power, heat and other purposes; that said law has been announced by the Supreme Court of the State of Nebraska, in decisions in cases pending before said tribunal in the year 1907, and that the said law became and has since remained a rule of property in the state of Nebraska.

34. On or about the 25th day of July, 1903, the said Omaha Electric Light & Power Company, for the purpose of borrowing money with which to satisfy in part the obligations incurred
 30 by it in the purchase, as aforesaid, of the rights, property and franchises of the New Omaha-Thomson-Houston Company, and to enlarge, extend and improve the same in the City of Omaha, executed and delivered to Old Colony Trust Company, the complainant herein, an indenture of mortgage or trust deed (herein called "the mortgage"), dated July 1, 1903, whereby all said rights, property and franchises, including the right and franchise granted as aforesaid by Ordinance No. 826 to the Thomson-Houston Company and its assigns, were assigned and conveyed to said Old Colony Trust Company to hold in trust as security for the payment of

such bonds, including interest thereon, as might be certified by that company as Trustee and issued under the mortgage, to the aggregate principal amount of not more than three million dollars (\$3,000,000); and thereupon such bonds, bearing interest at the rate of five per cent per annum, payable semi-annually, were duly certified and issued under and in accordance with the terms of the mortgage to the amount of \$1,350,000 par value, the principal thereof being payable on the first day of July in the year 1933. A copy of the mortgage, marked Exhibit "L" is hereto annexed and made a part of this bill of complaint. The mortgage was duly recorded and filed both as a mortgage on real estate and as a chattel mortgage as authorized and provided by the laws of Nebraska, and the same now appears of record in the office of the Register of Deeds of the County of Douglas in said State of Nebraska. Said \$1,350,000 of bonds were sold in July, 1903, to bona fide purchasers for value, and are now outstanding and subsisting obligations of the said company. The proceeds thereof were applied in partial satisfaction of obligations incurred in said purchase of the rights, property and franchises of the Thomson-Houston Company. The mortgage,

31 by its terms, covered and conveyed as well the property, rights, privileges and franchises, including contracts and choses in action, that the mortgagor subsequently acquired, as all that it owned at the time said instrument was executed and delivered; and the mortgagor therein covenanted with the said Old Colony Trust Company, Trustee as aforesaid, its successors and assigns, that from time to time as the said mortgagor should acquire additional rights, property, privileges or franchises, the same should become and remain subject to the lien of the mortgage as fully and completely as if they were owned and possessed by the Company at the date of the execution of that instrument, and covenanted further that it would from time to time, on request of the Trustee, execute and deliver to the Trustee such deeds or other instruments as might be proper to vest title thereto in the said Trustee, free from prior liens and encumbrances, the same to be held upon the trusts in the original mortgage expressed. Pursuant to said covenants the mortgagor Company has from time to time upon acquiring additional rights and property executed and delivered to your complainant, as the Trustee under the mortgage, indentures supplementary thereto, each such supplemental indenture confirming the mortgage and conveying to the Trustee, to hold upon the trusts of the original indenture, all the rights, property, privileges and franchises of every description at the time of the execution of the supplemental instrument owned and possessed by the mortgagor. Copies of the several supplementary indentures referred to, four in number, dated respectively July 8th, 1905, December 1st, 1905, June 27th, 1908, and January 29th, 1910, are attached hereto, marked respectively Exhibit "M," Exhibit "N," Exhibit "O" and Exhibit "P" and made a part of this bill of complaint. By the terms of the mortgage all bonds issued under it, at whatever time certified or

32 issued, were and are to stand equally secured thereby without preference or priority one bond over another by reason

of priority in the issue or negotiation thereof or for any reason whatever. Subsequent to the issue of the original \$1,350,000 as aforesaid and subsequent to May 31st, 1904, the mortgagor Company has issued under the mortgage and sold from time to time to bona fide purchasers for value, bonds aggregating ten hundred and thirty-eight thousand dollars (\$1,038,000) par value, bearing interest at the rate of five per cent per annum, payable semi-annually, and being of the same tenor and having the same maturity as the \$1,350,000 bonds above mentioned. The proceeds of said \$1,038,000 of bonds were applied to the making, or the reimbursing the company for making, the extensions and improvements which are shown by the averments hereof to have been made by the mortgagor company. All of the bonds issued as aforesaid, the same aggregating \$2,388,000 par value, were duly certified by the Trustee, the same were and are negotiable bonds, and they are outstanding and subsisting obligations of the company, held and owned by sundry investors, except that one hundred and thirty-one thousand (\$131,000) par value thereof are held in the sinking fund under the mortgage. All of the plant, property, renewals, improvements and extensions mentioned or referred to herein, including the right and franchise granted by said Ordinance No. 826 and the contract resulting from the acts of the parties in interest thereunder as aforesaid, are now held by the complainant, Old Colony Trust Company, in trust under the terms of the mortgage as security for the payment of the above-mentioned bonds and interest thereon.

35. Your orator further avers that each and all of the bonds aforesaid were purchased and are now held by the owners thereof, with full knowledge of all the facts aforesaid, existing prior to the issuance of said bonds, and in full reliance upon the interpretation of the said Ordinance Number 826, placed thereon as aforesaid by said city and the grantee therein at the time of the passage and the acceptance of the said ordinance and the like practical interpretation of the said ordinance placed upon the same by the said city and the said company and its assign, as hereinabove specifically set forth, and the laws of the State of Nebraska and the decision of the Supreme Court of the State of Nebraska as herein set forth, and in full understanding and belief that the said Omaha Electric Light & Power Company and complainant herein as mortgagee of said property possessed and now possesses the right of way in perpetuity through the streets and alleys and public places of the city of Omaha, for the purpose of generating electric current and distributing the same throughout the said city and adjoining communities to be used by the consumers thereof for light, power, heat or other purpose; and this complainant accepted said trust and acted thereunder as hereinabove set forth with knowledge of the facts aforesaid, and in reliance thereupon and with the understanding that the said Omaha Electric Light & Power Company has the rights, powers and privileges as hereinabove set forth.

36. Your orator further avers that the value of the property held by complainant as trustee under the mortgage or trust deed hereinabove set forth, is largely dependent upon its said street franchises

and rights of way as above set forth; that aside from the value of the said generating plant and distributing lines, as a fixed and complete system upon the streets, alleys and public places of the City of Omaha for the purpose of generating and distributing electric current to be used by the consumers thereof for light, power, heat and other purposes, the equipment and physical property of the

34 said Omaha Electric Light & Power Company is of comparatively small value, and would be wholly insufficient to secure the bonds outstanding as hereinabove set forth if removed from the streets, alleys and public places of the City of Omaha; and if the wires leading from the conduits or poles of the said Omaha Electric Light & Power Company transmitting electricity to private persons or premises to be used for heat or power are disconnected, and if the said Omaha Electric Light & Power Company is prevented from furnishing or transmitting from its conduits or wires electricity to private persons or premises, or heat or power purposes, the property and assets of the said Omaha Electric Light & Power Company will be of comparatively small value, and will be wholly insufficient to secure the bonds outstanding as hereinabove set forth. And your orator avers that it is necessary to the protection of the security held as aforesaid by the complainant herein as hereinabove set forth, that the complainant be protected and preserved in its right as mortgagee of said company to the use in perpetuity of the right of way over, upon and through the streets, alleys and public places of the City of Omaha for the purpose of generating and distributing electricity, the same to be used by the consumers thereof, for light, power, heat and other purposes. By the terms of said trust deed your orator is given power to protect said mortgage security by any appropriate suit or action.

37. Until about the 26th day of May, 1908, the respondent city had not questioned the right of the Omaha Electric Light & Power Company under said Ordinance No. 826 to generate and transmit electric current to consumers through, upon, over and under the streets and alleys of said City of Omaha by means of the company's lines, conduits, wires and conductors constructed and installed as hereinbefore alleged, or questioned that such consumers had

35 the right to employ for the production of power or heat, the electric current so generated and transmitted by the company. But on the 26th day of May, 1908, the respondent city by its Mayor and Council, and in the exercise of legislative authority and power delegated to said city by the laws of the State of Nebraska, passed the following concurrent resolution, and caused a copy thereof to be served upon said company, to-wit:

"Concurrent Resolution No. 2330.

Resolved, by the City Council of the City of Omaha, the Mayor concurring, that the City Electrician be and he is hereby ordered and directed to disconnect, or cause to be disconnected on or before July 1st, 1908, all wires leading from the conduits or poles of the Omaha Electric Light and Power Company transmitting electricity to private persons or premises to be used for heat or power; and to

take such steps as may be necessary to prevent the said Omaha Electric Light and Power Company from furnishing or transmitting from the conduits or wires electricity to private persons or premises for heat or power purposes; and be it further resolved, by the City Council of the City of Omaha, the Mayor concurring, that the Electrician be and is hereby ordered and directed to remove or cause to be removed on or before July 1st, 1908, all conduits, wires and poles belonging to the Omaha and Council Bluffs Street Railway Company and located in, under, upon or over, any street, alley, thoroughfare, or public place of the City of Omaha and maintained and used by said Street Railway Company for furnishing or transmitting electricity to private parties or premises for light, heat or power purposes.

Introduced by Councilman M. F. Funkhouser.
Passed May 26th, 1908.

Attest:

DAN B. BUTLER,
City Clerk.

Approved:

JAMES C. DAHLMAN, *Mayor.*
L. B. JOHNSON,
Pres. of Council.

And on the 16th day of June, 1908, the aforesaid Waldemar Michaelson, City Electrician of said city, served notice in writing on said company, in words and figures as follows, to-wit:

City of Omaha, Electrical Department; Waldemar Michaelson, City Electrician.

OMAHA, NEBR., June 16, 1908.

Omaha Electric Light & Power Company, Omaha, Nebr.

GENTLEMEN: In accordance with Concurrent Resolution No. 2330, passed by the Council May 26-08, and approved by His Honor the Mayor, June 1-08, you are hereby notified that unless you disconnect or cause to be disconnected before July 1-08, all wires leading from conduits or poles of your company transmitting electricity to private persons or premises to be used for heat or power, it will, on the date above mentioned, become my duty to cause the disconnection of said wires.

Respectfully yours,

WALDEMAR MICHAELSON,
City Electrician."

38. Your orator further avers, that it is the fixed purpose and intention of the respondent city to have the terms of said concurrent resolution carried out and enforced, and to that end it will employ, and put at the disposal of its City Electrician for the purpose, the police power of the city, unless restrained and enjoined from so doing by order of court.

39. Your orator further avers that as hereinabove set forth, the business of said Omaha Electric Light and Power Company is to generate and distribute to consumers electricity or electric energy; that said electric energy so supplied is utilized by the consumer as he desires; that the electric energy is delivered by means of a wire connecting the premises of the consumer with the wires of said company; that the electric energy so furnished by means of said

37 connections may be used and in many hundreds of instances is used for the purpose of light and power and heat; that to disconnect all wires carrying electricity used for power purposes, would disconnect many hundreds of wires carrying electricity used for light; that the said company has no control over the use to which a consumer may put the electric energy supplied him by said company. And your orator avers that the enforcement of said resolution would practically destroy the business of said company.

40. Your orator further avers that the execution of said resolution, or any substantial physical interference with the conduits, wires or poles therein mentioned, owned by the said company, all of which, together with the company's rights, privileges and franchises relating thereto, are mortgaged to and held in trust by the complainant as and for the purpose hereinbefore shown, will prevent very many of the company's customers in Omaha and adjacent communities from carrying on their usual and lawful business, and produce enormous losses to themselves and the public; and that the execution of said resolution or the interference as threatened with the conduits, poles and wires, or any of them, which are sought to be disconnected or removed as in said resolution directed, will produce great and irreparable loss and damage to the said company and its bondholders; will so destroy, or depreciate the value of the property situated in said City of Omaha, owned by the Omaha Electric Light & Power Company, and mortgaged by it to the complainant as aforesaid, as will make the security for said bonds wholly inadequate and greatly depreciate their market value; and will give rise to a great multiplicity of suits and will deprive your orator and the holders of said bonds of a large and valuable and necessary portion

38 of the mortgaged property, will impair the obligations of the contract hereinabove set forth, and will constitute the taking of private property without compensation and without due process of law, in violation of the Constitution of the United States.

Your orator further avers that said resolution passed and adopted by the legislative authority of the city aforesaid on May 26th, 1908, is in substance and legal effect a state law which impairs the obligations of the contract hereinbefore shown to have resulted from the passage of said Ordinance No. 526 and the action of the parties in interest thereunder; that said resolution as such a law is unconstitutional and void for the reason that the same violates the provisions of the Constitution of the United States.

41. The amount in dispute herein, exclusive of interest and costs, exceeds the sum of \$10,000.

42. Your orator further avers, that on the 29th day of June, 1908, the said Omaha Electric Light & Power Company filed and presented

to the Circuit Court of the United States within and for the District of Nebraska, Omaha Division, its bill in equity praying that the City of Omaha, its officers and representatives be enjoined and restrained from enforcing the provisions of the said resolution directing the cutting of the wires aforesaid, a copy of which said bill of complaint is hereto attached and marked Exhibit "Q" and made a part hereof; that upon the filing of the said bill, a temporary restraining order was issued as prayed in said bill by said court; that thereafter, an answer was filed in said cause, and replication filed thereto, testimony taken and the cause was submitted to the said court; upon consideration whereof, the said court entered a decree in said cause dismissing the said bill for want of equity, upon the ground that the said Omaha Electric Light & Power Company had no lawful right to use the streets and alleys and public places

39 of the City of Omaha for the purpose of transmitting electricity to be used for power purposes. Thereupon, an appeal was duly prosecuted from said decree to the United States Circuit Court of Appeals for the Eighth Circuit; and the same came duly on to be heard and was submitted to said court; on consideration whereof, said court entered a decree affirming the decree of the Circuit Court aforesaid, upon the ground that the said Omaha Electric Light & Power Company had no lawful right to use the streets, alleys and public places of the City of Omaha for transmitting electricity for any purpose. Thereupon, an appeal was duly prosecuted from said decree of the said Circuit Court of Appeals, to the Supreme Court of the United States, which said last mentioned appeal is still pending and undetermined in said court. Your orator further avers that in said bill and in the testimony offered in support thereof, important facts essential to the proper determination of the rights which your orator as trustee as aforesaid acquired from said Omaha Electric Light and Power Company and still possesses as herein shown to the use of the streets, alleys and public places of the City of Omaha, were not set forth or brought to the attention of the Court; that your orator was not a party to said cause and did not directly or indirectly participate in the prosecution thereof; that in the present state of the said litigation it is impossible for your orator to intervene in said cause, or to bring to the attention and knowledge of the court, the facts aforesaid omitted from said last mentioned bill and testimony. And your orator avers that it is necessary for it, in order to protect the rights of the parties whom it represents as herein set forth, to institute and prosecute this, its separate action.

Wherefore, as your orator can have no adequate relief except in this court, and to the end, therefore, that the respondent city
40 may, if it can, show cause why the complainant should not have the relief herein prayed for, and that the respondent may make direct and perfect answer hereto, but not under oath (an answer under oath being hereby waived), and that the respondent, its officers, agents and representatives may be restrained from the violation of your complainant's rights in the premises, your orator prays that Your Honors may grant a writ of injunction issuing out of and under the seal of this Honorable Court, perpetually en-

joining the respondent city, its officers, agents, employes, and all persons acting or pretending to act under authority of said city, from cutting, removing or otherwise severing or disconnecting any wire or wires leading from the conduits or poles of Omaha Electric Light & Power Company and transmitting electricity to private persons or premises to be used for heat or power; and from preventing by any means, said company from furnishing or transmitting from its conduits or wires, electricity to private persons or premises for heat or power purposes.

Your orator further prays:

(a) That a preliminary injunction may issue restraining as aforesaid the respondent city, its officers, agents, employees and all persons acting or pretending to act under its authority, pending the hearing and determination of this cause;

(b) That a restraining order may forthwith issue restraining the acts sought to be enjoined as aforesaid, until a decision is had upon the motion for such preliminary injunction;

(c) That your complainant may have such other and further relief as the equity of the case may require and to your Honors may seem best.

May it please Your Honors to grant unto your orator not only a restraining order and writ of injunction conformably to the prayers of this bill, but also a writ of subpoena of the United States of America, directed to The City of Omaha, commanding it on a day certain to appear and answer this Bill of Complaint, and to abide by and conform to such order or decrees in the premises as to the Court may seem proper and be required by the principles of equity and good conscience.

WILLIAM D. McHUGH,
Solicitor for Complainant.

WILLIAM D. McHUGH,
Of Counsel.

UNITED STATES OF AMERICA,
State of Massachusetts, County of Suffolk, ss:

Wallace B. Donham being first duly sworn, on oath says that he is Vice-President of Old Colony Trust Company; that he has read the foregoing bill, knows the contents thereof, and that the same are true of his own knowledge, except as to the matters stated on information and belief, and as to those matters, he believes them to be true.

WALLACE B. DONHAM.

Subscribed in my presence and sworn to before me, this 25th day of September, 1911.

ROLLIN B. FISHER, JR.,
Notary Public. [SEAL.]

EXHIBIT "A."

Ordinance No. 826.

"An Ordinance Granting the Right of Way to the New Omaha-Thomson-Houston Electric Light Company and Regulating the Same and Prescribing Penalties for the Violation of This Ordinance.

Be it ordained by the Mayor and Council of the City of Omaha:

SECTION ONE. That the New Ohama-Thomson-Houston Electric Light Company or assigns, is hereby granted right of way for erection and maintenance of poles and wires with all the appurtenances thereto, for the purpose of transacting a general Electric Light business, through, upon and over the streets, alleys and public grounds of the City of Omaha, Neb., under such reasonable regulations as may be provided by ordinance.

Provided that said company shall at all times when so requested by city authorities permit their poles and fixtures, to be used for the purpose of placing and maintaining thereon any wires that may be necessary for the use of the Police or Fire Department of the City, and further provided, such poles and wires shall be erected so as not to interfere with ordinary travel through such streets and alleys, and provided, that whenever it shall be necessary for any person to move along or across any of said streets or alleys any vehicle or structure of such height or size as to interfere with any poles or wires so erected, the company using and operating such poles and wires shall upon receiving twelve (12) hours' notice, thereof, temporarily remove such poles and wires from such place as must necessarily be crossed by such vehicle or structure and provided further that whenever the city council shall by ordinance declare the necessity of removing from the public streets or alleys of the City of Omaha, the telegraph, telephone or electric poles, or wires thereon constructed or existing, said company shall, within sixty days from the passage of such ordinance, remove all poles and wires, from said streets and alleys by it constructed, used or operated.

SECTION TWO. Any person who shall interfere —, cut, injure, remove, break or destroy any of the poles, wires, fixtures instruments or other property of The New Omaha-Thomson-Houston Electric Light Company, or association within the corporate limits of this city, shall be deemed guilty of a misdemeanor and on conviction thereof, shall be fined in any sum, not exceeding One Hundred Dollars (\$100.00).

SECTION THREE. This ordinance shall take effect and be in force from and after its passage and approval.

Passed December 16th, 1884.

J. J. L. C. JEWETT,
City Clerk.
P. F. MURPHY,
President City Council.
P. F. MURPHY,
Acting Mayor.

Approved December 17th, 1884."

EXHIBIT "B."

Articles of Incorporation of the New Omaha-Thomson-Houston Electric Light Company.

Know all Men: That we the undersigned J. C. Regan, J. E. Riley, J. W. Paddock, Geo. W. Duncan, P. C. Regan, George Canfield, Alfred Schroeder, (—) Fitzgerald and M. A. McNamara have associated ourselves together and by these presents do associate ourselves together for the purpose of forming and becoming a corporation in the State of Nebraska for the transaction of the business hereinafter described.

Article One.

The name of this corporation shall be "The New Omaha-Thomson-Houston Electric Light Company.

Article Two.

The principal place of transacting the business of this corporation shall be in the City of Omaha in the County of Douglas in the State of Nebraska.

Article Three.

The general nature of the business to be transacted by said corporation shall be to purchase Electric Light patents, privileges and franchises and sell or otherwise dispose of same; to construct lines of wire for the transmission of electric currents from central stations through such wires, or otherwise; to produce light for the illumination of streets, public and private buildings, and for all other purposes for which such light may be used; to enter into contracts for the furnishing such electric light to cities, towns, corporations or individuals; and to furnish the same for the purposes aforesaid or for any and all other lawful purposes anywhere within the State of Nebraska; to rent, sell or otherwise dispose of all classes of electric light appliances; to purchase such real estate, erect such buildings, purchase, construct and use such machinery and purchase, lease, hold, use and dispose of all such other property and material of every kind and description as may be necessary or incidental to the prosecution of said business anywhere within the said State of Nebraska.

Article Four.

The authorized capital of said corporation shall be one hundred thousand dollars divided into shares of one hundred dollars each, all to be fully paid up when issued and to be non-assessable. The capital stock may be increased to two hundred thousand dollars by a vote representing two-thirds (2-3) of all the stock held by all the stockholders of said corporation at the time such vote shall be taken each share of such stock to represent one vote.

Article Five.

The officers of said corporation shall be a President, Vice-President, Secretary, Treasurer, a General Manager and a Board of Directors, consisting of not more than five members, all of whom shall be elected by the stockholders, each stockholder to cast a number of votes corresponding with the number of shares of such stock as he owns. The first election of such officers shall be held at such time as the incorporators whose names are subscribed hereto may designate, but all subsequent elections shall be held at such times as the By-laws of said corporation shall fix upon, and the official terms of said officers and their respective duties shall be such as said By-laws shall prescribe.

Article Six.

The business of said corporation shall be transacted by the Board of Directors thereof, each director casting a number of votes corresponding with the number of shares of stock of such corporation as he shall own, and no person shall be an officer or director of such corporation who shall not be a stockholder thereof.

Article Seven.

The private property of the stockholders of this corporation shall not in any manner be liable for the debts or liabilities of the corporation nor for the debts or liabilities in any way resulting therefrom.

46

Article Eight.

The highest amount of indebtedness to which said corporation shall at any time subject itself shall not exceed the sum of Fifty Thousand Dollars.

Article Nine.

The existence of said corporation shall commence on the 26th day of September, A. D., 1885, and continue for the period of twenty years unless sooner dissolved by a vote representing two-thirds of all the stock of said corporation.

Article Ten.

The powers and duties of the several officers of said corporation and the method of conducting the business thereof so far as the same are not herein prescribed, shall be regulated by the By-laws of said corporation.

In Witness Whereof, we have hereunto set our hands this said 26th day of September, A. D., 1885.

J. C. REGAN.
J. E. RILEY.
J. W. PADDOCK.
GEO. W. DUNCAN.
P. G. REGAN.
GEO. CANFIELD.
ALFRED SCHRODER.
N. Y. FITZGERALD.
M. A. McNAMARA.

STATE OF NEBRASKA,
Douglas County, ss:

On this 28th day of September, A. D., 1885, before me a Notary Public duly commissioned and qualified within and for said Douglas County in the said State of Nebraska, personally appeared the said J. C. Regan, J. E. Riley, J. W. Paddock, Geo. W. Duncan, George Canfield, Alfred Schroder, M. J. Fitzgerald and M. A. McNamara, personally known to me to be the identical persons whose names are signed to the foregoing articles of incorporation and they all and each for himself acknowledged the signing and execution of the same to be his voluntary act and deed for the purposes therein set forth.

47 In witness whereof I have hereunto set my hand and notarial seal this the said 28th day of September, A. D., 1885.

J. T. MORIARITY,
Notary Public.

[SEAL.]

Recorded Sept. 28th, A. D., 1885, at 4:30 o'clock P. M.

GUST BENEKE,
County Clerk.

48

EXHIBIT "C."

Ordinance No. 3391.

"An Ordinance defining the duties of the City Electrician and establishing rules and regulations concerning electric work, wires and poles, and providing penalties for the violation of the provisions thereof.

Be it Ordained by the City Council of the City of Omaha.

Section I.

That upon application, it shall be the duty of the City Electrician on receipt of a notice of the completion of the wiring of any building, to at once inspect the work, and if the same is approved by him to issue a certificate of inspection, which will contain date of inspection and a general description of the result of such examination; but no such certificate shall be made or issued unless the electric light or power plant and all apparatus, wiring, etc., connected with it shall be in strict conformity with the rules and regulations hereinafter set forth.

Section II.

That the City Electrician shall inspect all isolated electric light plants now in operation in the city or hereinafter installed, at least twice in each year, or oftener if application is made by the owners of such plants, and shall see that any dangerous faults are removed at once.

It shall be the duty of the City Electrician to see that all sidewalk or pavements cut open for the erection of poles shall be restored substantially in as good condition in every respect as they were before such erection.

Section III.

That the City Electrician shall cause all wires, (except telephone) that have not been in use for thirty days, and which are known as "dead wires," to be removed at once, at the expense of the owner, and during said period said wires shall be kept in as safe a condition as the wires in use; and all dead wires of telephone companies shall be detached from the residences in which same have been used and grounded at the pole nearest said residence.

Section IV.

That the City Electrician shall condemn and notify the owner to renew old wires with new where such wire has become defective by reason of reduced size and tensile strength, the intent and purpose being to reduce the number of broken wires hanging down in the street, endangering and impeding travel after heavy storms of wind and sleet.

Section V.

That the City Electrician, or inspector authorized by the City Electrician, shall have the right at any time to enter any building, manhole or subway for the purpose of making any tests on the electrical apparatus therein contained. For this purpose he shall be given prompt access to all manholes—public or private—on application to the company or individual owning same.

Section VI.

That the said City Electrician shall make a thorough inspection of the lines of all companies owning wires in the city, at least twice a year, and where wires are in a dangerous condition, shall notify the companies owning the same to replace them in a safe and secure manner. Any company refusing or neglecting to remove or change such dangerous wires, after due notice from the City Electrician, shall be subject to a penalty of five dollars (\$5.00) per day until the wires are removed or placed in a safe condition.

Section VII.

That the said City Electrician shall have the power to cause the removal of all electrical wires or the turning off of dangerous circuits where the same interfere with the Fire Department. He shall, by virtue of his office, together with any authorized deputies, be clothed with the power of regular policemen while in the discharge of his duties.

Section VIII.

That all fees named herein shall be paid to the City Treasurer, and a duplicate receipt therefor shall be presented to the
50 City Electrician for filing before any permit under this ordinance shall be issued.

Section IX.

That a fee of one dollar (\$1) per hour for all semi-annual inspection of wires of each class and distinct ownership outside of buildings shall be charged and paid to the City Treasurer, provided that no such fee shall exceed the sum of fifty dollars (\$50) for such inspection.

Section X.

That for each and every permit issued, a fee of one dollar (\$1) shall be paid to the City Treasurer, and an additional fee of twenty-five cents (25c) for each pole set under such permit.

Section XI.

That the City Electrician shall keep a complete record of all official work done and fees charged, and make an annual report thereof to the Mayor and City Council, together with any recommendations he may deem best.

Section XII.

That the City Electrician shall, as soon as practicable and annually thereafter, prepare a map of the city showing in detail the occupation of the streets and alleys by the poles, wires and conduits of the different companies, and also the lines and wires of the city, and shall correct the same from time to time as new extensions are made.

Section XIII.

The following rules and regulations for the use of electric wires and appliances in the City of Omaha, are hereby adopted:

Rules.

Wires or conductors of the first class referred to in these rules, are those used for transmitting telegraphic or telephonic messages or service of like nature.

Wires or conductors of the second class are those used to convey heavy currents, or currents of high potential or both.
51 Those used for electric lighting or transmission of power belong to this class.

No. 1. Permits for lighting and power in buildings.

No electric system shall be used for lighting any building or portion thereof, or to furnish power, unless a permit shall be first procured from the City Electrician to run wires to accommodate

such system. The City Electrician shall issue such permits on application, and shall make a charge of one dollar (\$1) for each permit, and at the rate of one dollar (\$1) per hour actual time devoted to each inspection necessarily made. Such inspection to be made semi-annually, and oftener when requested by occupants or owners.

No. 2. Placing and removing of poles.

No poles or line of poles for any electric use shall be permitted upon the public streets until after an application for permit shall have been filed with the City Electrician. Such application to be accompanied with a full and complete plan of poles, arms, etc., to be erected.

No. 3. Cross of pole circuits.

Where wires of two classes cross each other, special care is needed.

The uppermost wires must cross the others by as short a span as possible, and special care must be taken to place them strongly so that there is no danger of their falling on those below. Where possible, a pole is to be placed at their point of crossing, the conductors of the second class being above except where wires of the first class are to be used from distributing poles in connection with wires from underground conduits. Where the pole is of metal, securely grounded, no danger will result from the proximity of the wires, but where it is of wood, special precaution must be taken to wrap the upper part of the pole and cross arms with wire of large size securely grounded by attachment to the nearest gas or water pipe or a plate buried in moist earth by a conductor equivalent in resistance to a section of iron of one-tenth of a square inch, so that any leaking current may be immediately carried to the ground.

No. 4. Arrangement of poles.

52 Poles carrying the two classes of wires shall not occupy the same side of the street, neither shall they cross each other except by the method given in Regulation No. 3 above.

When wooden poles are to be used, they shall be protected by wire or iron bands on the lower six feet, and shall be neatly painted with at least two coats of paint. To avoid any unnecessary excess of poles where it may be deemed practicable the City Electrician may require the placing of wires of different companies of same class upon the same poles. The basis of rental of such poles to be determined by arbitration, each party to name one arbitrator, and these to choose a third, such determination to be made known to the City Electrician and recorded in his office.

No. 5. Placing of new poles or attachments.

Application for the placing of new poles or adding any new arms to the poles already in place, public or private, is to be made to the City Electrician, in writing on a suitable printed form and permission is only to be granted in situations where the service cannot be done by underground wire in conduits. The City Electrician is to be the judge of such possibility.

No. 6. Repairing, streets and sidewalks.

All earth or other rubbish taken out of the walks or street for the erection of poles shall be promptly carted away. Failing or neglecting to restore streets and walks and haul away the excavated mate-

rial in a reasonable time, the City Electrician shall have the right to cause such work to be done at the expense of such parties, and no further permits of any kind shall be issued to such parties until such expense shall have been made good to the city.

No. 7. Metal poles to be grounded.

Every metal pole or structure having conductors attached to it by insulators and carrying currents above 300 volts in potential must be securely grounded, so that the ground resistance is less than 10 ohms at all times and states of the weather.

No. 8. Circuits are to be branded.

All cables and wires are to be conspicuously branded by the company owning them at every manhole, as well as at each arc lamp and at each insulator, by a suitable and conspicuous label or brand easily seen from the street in case of overhead wires, so that every electrical system can be recognized at once and responsibility for damages or violation of the law can be quickly fixed.

No. 9. Special precautions.

No lines of the second class of 500 volts or over shall hang within 18 feet of the pavement at their lowest point except where a lamp connection is to be made, or in case of viaducts having less headway; nor pass nearer than 10 vertical or 5 horizontal feet to any awning frame or other metallic conductor rising from the street, even for lamp connections, without special and careful insulation of the wire. Whenever there is a chance of leakage to the iron frame or post, the latter is to be securely grounded. All joints must be as well insulated as the main line.

No. 10. Wires must be properly attached to objects near them.

All wires passing within four inches of any fixed object must be attached to it by proper insulators unless supported within ten feet of it by being attached to another insulator at that point, and the wires outside or inside the building must never, even when insulated, be in contact with any object, but always be separated from it by an approved insulator.

No. 11. No earth returns allowed.

All circuits of the second class must be entirely metallic and no earth connections must be used for lines situated within the limits of the City of Omaha.

Special permission to use the earth for the return circuit can only be given to telephone and telegraph companies and to street railways using trolley systems.

No. 12. Entrance into and passage of high potential wires through buildings.

Wires of the second class above 300 volts entering buildings must be at least one foot apart for each 1,000 volts potential. They must have a thickness of approved water-proof insulation of at least one-tenth of an inch for each and every 1,000 volts of potential for at least five feet before entering the building and continuing within the building to a point where the wires are so high above the floor or sufficiently distant from any danger to life or property.

The insulation may then be reduced to one-half the above thickness. The passage through all walls or partitions is to be made by the wire with thick insulation laid in incombustible insulating tubes.

No. 13. Inside wires.

All wires of the second class in buildings are to be covered most carefully from end to end and at the joints with durable insulating material which does not become very soft at 150 degrees F.

In all situations the insulation must be waterproof. The whole is to be covered with durable covering of tape, thread or woven material, and the thickness is to be proportioned to the potential. Bare wire inclosed in wood is not to be used, neither so-called "Under-writer's wire."

In the building the two wires must be one foot apart for 1,000 volts and in proportion for other potentials, except for constant potential systems with safety plugs when the wires can be twisted together and placed in the tubes or channels of non-inflammable material, provided the current does not exceed 10 amperes.

The insulated wires are to be supported on insulators near together and laid in boxes, wooden or of non-conducting incombustible material, at least three inches square on the inside, with a glass cover to render the interior visible. The boxes are to be suitably ventilated. These boxes are to be carried to all points at a height not less than seven feet above floor line. Beyond and above that point the insulation may be of a thinner variety, and the wires suspended freely in the air tightly stretched on insulators.

No. 14. Wires must be accessible.

All wires carrying high potential currents must be placed in easily accessible positions, and it is best to have the tubes and wires clearly in view the whole length.

55 No. 15. Size of wires.

The wires must all be of sufficient size to carry twice the current without more than a slight heating. One thousand amperes to the square inch of copper is considered safe in most positions, especially for small wires not too closely inclosed. Two thousand amperes to the square inch is often safe for small free conductors.

No. 16. Cut-off and safety fuses.

Every line of second class entering a building shall be controlled by a suitable cut-off near the entrance, in sight and easily accessible.

In the case of so-called constant potential systems and transformer systems, a suitable safety fuse or its equivalent must be used in each branch of the circuit at the entrance to the building, and at all places where a change in the size of wire occurs to cut off the current on the occurrence of a short circuit.

No fuse wire or other safety device shall have a greater carrying capacity than a ten per cent excess of the proper ampere capacity.

No. 17. Switches.

Switches, resistances, commutators and cut-outs, must be mounted on incombustible bases in such places as to avoid all danger of conflagration. Wood, properly treated, can be used. All attachments to the same are to be easily accessible, and in case of circuits above

300 volts their parts so arranged by the use of insulators or grounded metal screens that there is no possibility of accidental contact. In case connections are made at the back, the same must be easily accessible and not placed against a wall or other object where a concealed fire may form.

No. 18. Lightning arrester.

Suitable appliances for protection against lightning shall be placed in every building in connection with every wire entering same.

No. 19. Motors and Dynamos carefully placed.

Electric motors or dynamos must not be placed in position where there is escaping gas or vapor, or fumes of any inflammable
56 substance or inflammable dust, as the sparks at the commutators may cause an explosion.

No. 20. Currents must be shut off to make repairs.

Wherever deemed necessary for the protection of employes the City Electrician shall have the power to require the company making repairs or alterations to wires carrying over 500 volts to use satisfactory safety appliances.

No. 21. Frames for dynamos and motors.

All metal frames of dynamos and motors, regardless of voltage, must be kept clear of any ground, and must be so placed that no one can place their hands on exposed parts carrying electric current and make an electrical connection with gas, water or steampipes with their own hand or any part of their body, and if floor is damp and cannot be made dry, some well-insulated platform must be built around same.

No. 22. Converters must be made safe to life and property.

Converters must be furnished with proper safety plugs in both circuits, and no fuse plug or other safety device shall have a greater carrying capacity than ten per cent in excess of their ampere capacity.

Converters shall not be allowed inside of buildings except in special cases, and then they must be encased in a thorough non-inflammable material which must meet the approval of the City Electrician.

No. 23. Arc Lamps to be made safe.

All arc lamps in public positions are to be placed with their lower part at least eight feet above the pavement or floor and all connections are to be placed out of reach of accidental contact. All parts of arc lamps in the circuit and liable to be handled shall be insulated or protected by a grounded metal frame.

The arc lights are always to be enclosed in glass globes, and surrounded with wire netting where necessary.

No. 24. Wires of First Class.

Wires of the first class are perfectly harmless by themselves and can be placed in buildings in any manner, the only care needed to place a proper lighting arrester when they are connected
57 with an overhead system, and to remove them from all danger of contact with wires of the second class. Where

there is danger of the latter, some protective device to prevent heavy currents entering should be adopted.

No. 25. Public conduits.

The city having the use of one duct in the telephone conduits, the placing of all wires belonging to the city within said conduit, and their maintenance and repairs shall be under the direction of the City Electrician. He shall have the right to enter any manhole in the conduits laid on the public streets at all times and be furnished with prompt access to the same by the telephone company.

No. 26. Wires must be put under ground, except, etc.

No permits to place wires overhead shall be given by the City Electrician unless the same or equivalent service cannot be rendered by wires in conduits, or the company applying for the permit owns no conduits of its own at the given place.

In such case the system of distribution across house-tops is to be encouraged both for the first and second class of conductors.

No. 27. Insulation and voltage.

No limit to the voltage or quantity of current is to be made when the same is properly regulated and controlled to prevent danger to life or property, and is constantly tested in accordance with these rules and regulations.

No. 28. Dangerous wires to be painted red or otherwise designated.

Wires carrying currents at a potential of 500 volts or higher, excepting trolley wires, are to be painted a bright red or by other distinct designation, by the persons or company owning them, wherever visible, as a signal of danger and the lead covering of such cables in public manholes are also to be painted or by other distinct designation. The outside of grounded metal tubes carrying wires inside of buildings need not to be so painted inside the building, but the outside insulation of the wire must be so painted, or otherwise distinctly designated.

58 No. 29. High potential wires to be insulated.

Overhead wires of class 2 are to be continuously insulated with durable and water proof material to be approved by the City Electrician. This insulation is to be carried to all portions of the circuit, including joints, and is to be kept in constant repair. So-called "Underwriter's wire" is not to be considered satisfactory. This does not include trolley wires.

No. 30. Insulation Resistance.

The wiring in any building must test free from "grounds" and show an insulation resistance for each volt of pressure used of over ten thousand (10,000) ohms per mile of wire.

The City Electrician shall have the power to order ground detectors, continuous or otherwise, to be located at any portion of the circuit he may think desirable.

The insulation must be approved by the City Electrician and for overhead wires be at least two megohms per mile per 100 volts.

For underground cables in private conduits no tests of the cables by themselves need be made, but only after all the connections are made as above.

No. 31. Companies must provide themselves with testing apparatus.

Every electric light or power company doing business in the city shall provide itself with such instruments for electrical testing as are considered necessary by the City Electrician, and they shall be located at such places and shall have such connections as the City Electrician shall consider necessary for the protection of life and property, and the carrying out of these rules and regulations.

No. 32. No great leakage from Circuits allowed.

The insulation of all circuits of the second class is to be maintained as follows:

If any circuit, overhead or underground, in private or public conduits, with all attachments or connections, and with full current flowing, is grounded at any point, the current escaping must be not to exceed one-twentieth of an ampere. The City Electrician shall

59 have power to make this test or order it made on any circuit at any time; such tests shall not be made when they shall interfere with the service to consumers except when unavoidable; and he has also power to remove the insulation from any wire at any time to make the proper connection, notice being given to the company after the test to close the opening at their own expense.

No. 33. Street Railways.

On street railways all circuits where the rails are used for return circuits shall be provided with an improved automatic circuit breaker fuse, or other device that will immediately cut off the circuit in case the trolley wires shall become short circuited; said circuit breaker shall be placed in power station, in full view of the attendant, and must be mounted on a fire proof base. All trolley wires shall be well insulated from their supports. All trolley wires shall have a guard wire running above same their entire length, except where there is no danger from other wires falling on them. In no case shall the guard and trolley wires be closer than one foot apart. All platforms, brake-handles, rheostats accessible to passengers and employés, must be free from all electrical connections with trolley wires.

No. 34. Pipes.

No plumber, gas fitter, or other metal worker, shall be allowed to run water pipes, gas pipes, or tin tubes, within six inches of any electrical wire of the second class without notifying the City Electrician and securing his approval of the same; and when any plumber or gas fitter causes any loss or damage to any wires by not complying with this section he or they shall be responsible for all loss or damage, and when the Plumbing Inspector has been notified by the City Electrician that a gas fitter or plumber has not complied with this section, no more permits shall be issued to said plumber or gas fitter until such damage shall have been paid.

No. 35. Maintenance of wires.

All electrical work shall be done, and all electric wires shall be placed and maintained as required by the City Electrician in accordance with these rules and regulations.

No. 36. Appliances must be inspected.

60 All wires, cables, insulators, switches, lightning arresters, and safety plugs shall only be used when accompanied by a permit from the City Electrician certifying that they are safe and according to regulation; and every police officer, authorized inspector or other person authorized by the City Electrician may demand the production of a permit from the company owning such device within twenty-four hours, or immediately from the line-man or other workmen while he is placing them in position or making any repairs to them.

No. 37. Ground detectors to be used.

All circuits to be furnished with a suitable ground detector, and to be tested at regular intervals. If a ground is detected it must be removed at the earliest possible time. In case it is continued beyond that time the company owning and operating the lines shall be responsible for all damage which may occur.

No. 38. Linemen must wear badges.

All linemen of the different companies while on duty must wear a conspicuously numbered badge, indicating the name of the company by whom he is employed. To do any work in the putting up or repairing of poles, wires, or other electrical appliances in the public streets, he must have a permit from the City Electrician, to be produced at any time when demanded by any member of the police force, or other persons designated by the City Electrician. If dealing with wires of the second class, he must be furnished with rubber gloves and properly insulated appliances and use the same when necessary.

No. 39. Repairs must be made.

Each company or individual using electrical appliances in the city is to keep its appliances in perfect repair and up to the requirements of these rules and regulations.

The City Electrician shall have the right to require any repairs, alterations, or changes, in the electrical appliances of any company, corporation or individual, to bring the same within the rules and regulations of the city; and if after such repairs or changes shall have been ordered by the City Electrician and reasonable notice served on said company, corporation or individual to make such repairs or alterations, they be not complied with, the City Electrician shall have power, at his discretion, to make such repairs or alterations, and charge the cost of the same to said company, corporation or individual.

No. 40. Companies must report.

61 Every company, corporation, firm or individual doing electrical work in the City of Omaha, or owning any wires or cables in the public highway, shall, on or before January 1st, each year, officially certify to the City Electrician, the number and locality of wires, electrical conductors, conduits, cables or tubes, and the miles of wire laid under ground or on poles within the City of Omaha. They shall also specify the number and location of incandescent or arc lamps on their circuits, the number, location and power of motors they are running by the aid of their circuits and their location, to-

gether with the electric motive force and intensity of currents in each locality and through each circuit.

All electrical companies doing business in the city must file once a week at the office of the City Electrician, a report, on the proper printed blank, as to any new constructions carried on during the week, and it shall be the duty of the Electrician on the receipt of such reports, to detail an inspector to report on the same and see that all the regulations are carried out.

A daily test of a total insulation of the circuit with all attachments is to be made by the owner of the circuit of the second class, and together with the working of the ground detector, the records of which shall be accessible at all times to the City Electrician.

The insulation of the whole circuit, with all its connections, including dynamos and motors, shall never be less than 100 ohms for each volt or potential.

No. 42.

All companies, firms, or individuals, except such as wire for motors, doing wiring for the second class shall procure a license from the City Electrician and shall deposit fifty dollars (\$50) with the City Treasurer during the term of said license, and also give a bond to the City of Omaha in the sum of twenty-five hundred dollars (\$2,500) said bond to be approved by the Mayor and City Council. This is to insure the faithful performance of this ordinance, and any company, firm or individual shall be liable for any damage or loss that may occur from any neglect or carelessness while employed in wiring, or from poor work or material, and the City Electrician shall revoke his license.

By returning the receipt and license to the City Treasurer with an order from the City Electrician, the deposit shall be returned.

Section XIV.

Any person, company or corporation who shall violate any of the provisions of the foregoing sections, or who shall violate, refuse or neglect to comply, with the rules and regulations in this ordinance, or who shall refuse or neglect to comply with any order or demand of the City Electrician made in pursuance of and by the authority of any of the provisions of this ordinance, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be fined in any sum not exceeding two hundred dollars (\$200) or be imprisoned not exceeding thirty days, or both fined and imprisoned, in the discretion of the Court.

Section XV.

That this ordinance shall take effect and be in force from and after its passage.

Passed December 20th, 1892.

[SEAL.]

JOHN GROVES,
City Clerk.

E. P. DAVIS,
President City Council.
GEO. P. BEMIS, *Mayor.*

Approved December 24th, 1892."

EXHIBIT "D."

Ordinance No. 3791.

"An ordinance defining the duties of the City Electrician and establishing rules and regulations concerning electric work, wires and poles, and providing penalties for the violation of the provisions of said ordinance and rules established thereunder and by virtue thereof; also to repeal Ordinance No. 3391.

Be it ordained by the City Council of the City of Omaha:

SEC. 1. That upon application it shall be the duty of the City Electrician or other person in charge of said department, on receipt of a notice of the completion of the wiring of any building, to at once inspect the work, and if approved by him, to issue a certificate of inspection which shall contain the date of the inspection and a general description of the result of such examination; but no such certificate shall be made or issued unless the electric light or power plant and all apparatus, wiring, etc., connected with it shall be in strict conformity with the rules and regulations hereinafter set forth.

SEC. 2. That the City Electrician or other person in charge of said department shall inspect all isolated electric light plants now in operation in the city, or hereafter installed, at least twice in each year or oftener if application is made by the owners of such plants, and he shall see that any dangerous or defective machinery, wires or appliances are removed or remedied at once.

SEC. 3. That the City Electrician or other person in charge of said department shall cause all wires (except telephone wires) that have not been used for thirty days and which are known as "dead wires" to be removed at once at the expense of the owners, and during said period when said wires are not used they shall be kept in as safe a condition as the wires in use. All dead wires of telephone companies shall be detached from the residences and buildings in which same have been used and they shall be grounded at the pole nearest said residence or building.

SEC. 4. The City Electrician or other person in charge of said department shall condemn and notify the owners to renew old wires with new where such wire or wires has become defective by reason of reduced size and tensile strength.

SEC. 5. The City Electrician or duly authorized inspector or other person in charge of said department shall have the right at any time to enter any building, manhole or subway in the discharge of his or their official duties or for the purpose of making any tests of the electrical apparatus or appliances therein contained. And for this purpose he or they shall be given prompt access to all buildings, public or private, and all manholes and conduits on application to the company or individual owning or in charge or control of the same.

SEC. 6. The said City Electrician or other person in charge of said

department shall make a thorough inspection of the lines of all companies owning wires in the city at least twice in each year, and where wires are in a dangerous condition, shall notify the companies owning, using or operating them to place the same in a safe and secure condition within forty-eight (48) hours. Any company failing or refusing to repair, change or remove the same within forty-eight (48) hours after the receipt of such notice shall be subject to a penalty of five dollars (\$5) for each and every day until such wires are repaired, changed or removed as directed by such officer or person in charge of said department.

SEC. 7. That the said City Electrician, inspector or other person in charge of such department shall have the power to cause the removal of all electrical wires or the turning off of dangerous circuits, where the same interfere with the work of the Fire Department.

SEC. 8. That all fees herein required shall be paid to the City Treasurer, who shall receipt for same in duplicate, one of 65 which receipts shall be filed in the office of the City Electrician before any permit required by this ordinance or its rules shall be issued.

SEC. 9. That a fee of one dollar for each hour actually engaged in making the semi-annual inspection of plants, buildings, and wires of each class and distinct ownership shall be charged and paid to the City Treasurer upon the certificate of the City Electrician or person in charge of said department, provided that in no event shall the charge or fee exceed the sum of fifty dollars (\$50) for any one owner, partnership, corporation or plant.

SEC. 10. That for each and every permit issued a fee of one dollar (\$1) shall be paid to the City Treasurer and an additional sum or fee of twenty-five cents (25c.) shall be charged for each pole set under said permit.

SEC. 11. That the City Electrician or other person in charge of said department shall keep or cause to be kept a full and complete daily record of all work done, permits issued, examinations made, or other official work performed as required by the provisions of this ordinance or its rules, and make a full and detailed report thereof to the mayor and council on or before the first Tuesday of January of each year.

SEC. 12. That the City Electrician or other person in charge of said office shall at once prepare a map of the city showing in detail the occupation of the streets and alleys by poles, wires and conduits of the different companies, corporations or individuals, including the City of Omaha, and said map shall be corrected from time to time as extensions or changes may be made under permits granted therefor.

SEC. 13. The following rules and regulations for the use of electric wires, plants and appliances are hereby adopted and approved, viz:

Rules and Requirements of the City of Omaha, Nebr., for the Installation of Wiring and Apparatus for Electric Light and Power.

Class "A. A."

Concealed work must be examined and preliminary certificate obtained before being covered.

66 The use of wire ways for rendering concealed wiring permanently accessible is most heartily endorsed and recommended; and this method of accessible concealed construction is advised for general use.

Architects are urged, when drawing plans and specifications, to make provisions for the channeling and pocketing of buildings for electric light or power wires, and in specifications for electric gas lighting to require a two-wire circuit, whether the building is to be wired for electric lighting or not, so that no part of the gas fixtures or gas piping be allowed to be used for the gas lighting circuit.

Central Stations.

Class A.

For Light or Power.

These rules also apply to Dynamo Rooms in Isolated Plants connected with or detached from buildings used for other purposes; also to all varieties of apparatus therein, of both high and low potential.

1. Generators.

a. Must be located in a dry place.

b. Must be insulated on floors or base frames, which must be kept filled to prevent absorption of moisture, and also kept clean and dry.

c. Must never be placed in a room where any hazardous process is carried on, nor in places where they would be exposed to inflammable gases, or flyings, or combustible material.

d. Must each be provided with a water proof covering.

2. Care and Attendance:

A competent man must be kept on duty in the room where generators are operating.

Oily waste must be kept in approved metal cans, and removed daily.

3. Conductors:

From generators, switch boards, rheostats, or other instruments and thence to outside lines, conductors.

a. Must be in plain sight, and readily accessible.

67 b. Must be wholly on non-combustible insulators, such as glass or porcelain.

c. Must be separated from contact with floors, partitions or walls, through which they may pass, by non-combustible tubes, such as glass or porcelain.

d. Must be kept rigidly so far apart that they cannot come in contact.

e. Must be covered with non-inflammable insulating material sufficient to prevent accidental contact, except that "bus bars" may be made of bare metal.

f. Must have ample carrying capacity, to prevent heating. (See capacity of Wires' Table.)

4. Switch Boards.

Should be approved before being placed.

a. Must be so placed as to reduce to a minimum the danger of communicating fire to adjacent combustible material.

b. Must be accessible from all sides when the connections are on the back; or may be placed against a brick or stone wall when the wiring is entirely on the face.

c. Must be kept free from moisture.

d. Must be made of non-combustible material, or of hardwood in skeleton form, filled to prevent absorption of moisture.

e. Bus bars must be equipped in accordance with Rule 3 for placing conductors.

5. Resistance Boxes and Equalizers:

a. Must be equipped with metal, or other non-combustible frames.

b. Must be placed on the switch board, or if, not thereon, at a distance of one foot from combustible material, or be separated therefrom, by a non-inflammable, non-absorptive, insulating material.

6. Lightning Arresters:

a. Must be attached to each side of every overhead circuit connected with the station.

b. Must be mounted on non-combustible bases in plain sight on the switch board, or in an equally accessible place, away from combustible material.

68 c. Must be connected with at least two "earths" by separate wires, not smaller than No. 6 B. & S., which must not be connected to any pipe within the building.

d. Must be so constructed as not to maintain an arc after the discharge has passed.

7. Testing:

a. All series and alternating circuits must be tested every twenty-four hours, to discover any leakage to earth, and a record of such tests submitted to the Electrical Inspection.

b. All multiple arc low potential systems (300 volts or less) must be provided with an indicating or detecting device, readily attachable, to afford easy means of testing where the station operates continuously.

c. Data obtained from all tests must be preserved for examination by inspectors.

These rules on testing to be applied at such places as may be designated by the Electrical Inspection.

Motors.

8. Motors:

a. Must be wired under the same precautions as with a current of the same volume and potential for lighting. The motor and

resistance box must be protected by a double pole-cut-out and controlled by a double pole switch, except in cases where five amperes or less is used on low tension circuits, where a single pole switch will be accepted.

b. Must be thoroughly insulated, mounted on filled dry wood, be raised at least eight inches above the surrounding floor, be provided with pans to prevent oil from soaking into the floor, and must be kept clean.

c. Must be covered with a waterproof covering when not in use and if deemed necessary by the Inspector, must be enclosed in an approved case.

9. Resistance Boxes:

a. Must be equipped with metal or other non-combustible frames.

b. Must be placed on the switch board or at a distance of one foot from combustible material, or separated therefrom by a non-absorptive, insulating material.

69 *c.* Starting boxes must be so arranged that resistance can not be left in circuit.

Class B.

Arc (Series) Systems.

Over 300 Volts.

10. Outside Conductors:

All outside, overhead conductors (including services):

a. Must be covered with some insulating material, not easily abraded, firmly secured to properly insulated and substantially built supports, all tie wires having an insulation equal to that of the conductors they confine.

b. Must be so placed that moisture cannot form a cross connection between them, not less than one foot apart, and not in contact with any substance other than their insulating supports.

c. Must be at least seven feet above the highest point of flat roofs, and at least one foot above the ridge of pitched roofs over which they pass or to which they are attached.

d. Must be protected by dead insulated guards, irons or wires from possibility of contact with other conducting wires or substances, to which current may leak. Special precautions of this kind must be taken where sharp angles occur or where any wires might possibly come in contact with electric light or power wires.

e. Must be provided with petticoat insulators of glass or porcelain. Porcelain knobs or cleats and rubber hooks will not be approved.

f. Must be so spliced or joined as to be both mechanically and electrically secure without solder. The joints must then be soldered, to insure preservation and covered with an insulation equal to that on the conductors.

g. Telegraph, telephone and similar wires must not be placed on the same cross-arm with electric light or power wires.

Interior Conductors.

12. All Interior Conductors:

Must, where entering buildings, have the holes bushed with waterproof non-combustible insulating tubes, or where, from
70 the nature of the case, this construction is impossible, with an approved flexible tube. The tube should slant upward toward the inside, and must be sealed with tape thoroughly painted, securing the tube to the wire.

a. Must be arranged to enter and leave the building through a double contact service switch, which will effectually close the main circuit and disconnect the interior wires when it is turned "off." The switch must be so constructed that it shall be automatic in its action, not stopping between points when started, and prevent an arc between the points under all circumstances; it must indicate on inspection whether the current be "on" or "off" and be mounted in a non-combustible case, and kept free from moisture and easy of access to police or firemen.

b. Must always be in plain sight, except that lead encased conductors may be run in moulding, in which case at least six inches of the lead covering shall project beyond the moulding.

c. Must have an approved insulating covering.

d. Must be supported on glass or porcelain insulators, and kept rigidly at least four and, where possible, eight inches apart, except within the structure of lamps or on hanger boards, cut-off boxes, or the like, where less distance is necessary.

e. Must be separated from contact with walls, floors, timbers, or partitions through which they may pass by non-combustible insulating tube or where from the nature of the construction it is impossible to use a rigid tube, an approved flexible tube may be used.

f. Must be so spliced or joined as to be both mechanically and electrically secure without solder. They must then be soldered to insure preservation, and covered with an insulation equal to that on the conductors.

Lamps and Other Devices.

13. Arc Lamps—In every case:

a. Must be carefully isolated from inflammable material.

b. Must, unless otherwise permitted, be provided at all times with a glass globe surrounding the arc, securely fastened upon
71 a closed base. No broken or cracked globes to be used.

c. Must be provided with an approved hand switch, also an automatic switch, that will shunt the current around the carbons should they fail to feed properly.

d. Must be provided with reliable stops to prevent carbons from falling out in case the clamps become loose.

e. Must be so constructed that spark arresters can be adjusted without short-circuiting the lamp.

f. Must be provided with a wire netting around the globe, and an approved spark arrester above to prevent escape of sparks melted copper or carbon, where readily inflammable material is in the

vicinity of the lamps. It is recommended that plain carbons, not copper plated, be used for lamps in such places.

g. The use of hanger boards is not advised. The following construction is recommended: Hanging lamps direct by insulated wires attached to waterproof non-combustible insulating supports. When used hanger boards must be so constructed that all wires and current carrying devices thereon shall be exposed to view, and thoroughly insulated by being mounted on a waterproof, non-combustible substance. All switches attached to the same must be so constructed that they shall be automatic in their action, not stopping between points when started, and preventing an arc between points under all circumstances.

14. Incandescent Lamps in Series Circuits Having a Maximum Potential of 300 Volts or Over:

a. Must be governed by the same rules as for arc lights, and each series lamp provided with an approved hand-spring switch and automatic cut-out.

b. Must have each lamp suspended from a hanger board by means of a rigid tube.

c. No electric-magnetic device for switches and no system of multiple series or series multiple lighting will be approved.

d. Under no circumstances can series lamps be attached to gas fixtures.

72

Class C.

Incandescent (Low Pressure) Systems.

300 Volts or Less.

Outside Conductors.

15. Outside Overhead Conductors:

a. Must be erected in accordance with the rules for arc (series) circuit conductors.

b. Must be separated not less than 12 inches, and be provided with an approved fusible cut-out, that will cut off the entire current as near as possible to the entrance to the building and inside the walls.

16. Underground Conductors:

a. Must be protected against moisture and mechanical injury, and be removed at least two feet from combustible material when brought into a building, but not connected with the interior conductors.

b. Must have a switch and a cut-out for each wire between the underground conductors and the interior wiring when the two parts of the wiring are connected.

These switches and fuses must be placed as near as possible to the end of the underground conduit, and connected therewith by specially insulated conductors, kept apart not less than two and a half inches.

c. Must not be so arranged as to shunt the current through a building around any catch box.

Inside Wiring.**General Rules.**

17. At the entrance of every building there shall be an approved switch placed in the service conductors by which the current may be entirely cut off.

18. Conductors.

a. Must have an approved insulating covering, and must not be of size smaller than No. 14 B. & S., No. 16 B. W. G., (of) No. 4 E. S. G.

b. Must be protected when passing through floors; or through walls, partitions, timbers, etc., in places liable to be exposed to dampness by waterproof, non-combustible, insulating tubes, such as glass or porcelain, except that in cases where it is impossible to use a rigid tube, and approved flexible tube may be permitted.

Must be protected when passing through walls, partitions, timbers, etc., in places not liable to be exposed to dampness by approved insulating bushings specially made for the purpose.

c. Must be kept free from contact with gas, water, or other metallic piping, or any other conductors or conducting material which they may cross (except high potential conductors) by some continuous and firmly fixed non-conductor.

d. Must be so placed in crossing high potential conductors that there shall be a space of at least twelve inches (12 inches), or greater where required by special conditions, at all points between high and low tension conductors.

e. Must be so placed in wet places that an air space will be left between conductors and pipes in crossing, and the former must be run, in such a way that they cannot come in contact with the pipe accidentally. Wires should be run over all pipes upon which condensed moisture is likely to gather, or which, by leaking, might cause trouble on a circuit.

Special Rules.**19. Wiring not Encased in Moulding or Approved Conduit:**

a. Must be supported wholly on non-combustible insulators, constructed so as to prevent the insulating coverings of the wire from coming in contact with other substances than the insulating supports, except that wood cleats may be used in places not liable to moisture where moulding would be allowed and where mechanical protection of the wire is not necessary. Such cleats to be filled with moisture-proof compound. A filled or finished wood work will be accepted in lieu of the backing of the cleat.

b. Must be so arranged that wires of opposite polarity, with a difference of potential of 150 volts or less, will be kept apart at least **two and one-half inches.**

74 c. Must have the above distance increased proportionately where a higher voltage is used, unless they are incased in moulding or approved conduit.

d. Must not be laid in plaster, cement or similar finish, except when the walls or ceilings are of fireproof material—brick or tile. No joints will be allowed under plaster.

e. Must never be fastened with staples. In Unfinished Lofts, Between Floor and Ceilings, in Partitions and other Concealed Places.

f. Must have at least one-half inch clear air space surrounding them, and where wires pass through joints, beams, etc. must conform to Rule 19 (*b*).

g. Must be at least ten inches apart when possible, and should be run singly on separate timbers or studding.

h. Wires run as above immediately under roofs, in proximity to water tanks or pipes, will be considered as exposed to moisture.

i. Wires must not be fished for any great distance and only in places where the Inspector can satisfy himself that the above rules have been complied with.

j. Twin wires must never be employed in this class of concealed work.

20. Mouldings.

a. Must never be used in concealed work or in damp places.

b. Must have at least two coats of waterproof paint or be impregnated with a moisture repellent.

c. Must be made in two pieces, a backing and a capping, with a bridge one-half inch wide and must afford suitable protection against abrasion. Filled or finished wood work will be accepted in lieu of backing for moulding.

21. Special Wiring:

a. In breweries, packing houses, stables, dyehouses, paper and pulp mills, or other buildings specially liable to moisture or acid, or other fumes liable to injure the wires of insulation, except where used for pendants, conductors.

a. Must be separate at least six inches.

b. Must be provided with an approved waterproof covering.

75 *c.* Must be carefully put up.

d. Must be supported by glass or porcelain insulators. No switches or fusible cut-outs will be allowed where exposed to inflammable gases or dust, or to flying of combustible materials.

e. Must be protected when passing through floors, walls, partitions, timbers, etc., by waterproof, non-combustible, insulating tubes, such as glass or porcelain.

f. The wires in passing through floors should be protected to a height of eight feet by a box so constructed as to allow an air space around the wire. The joint between box and floor to be made waterproof by a quarter round moulding laid in tar. Where this construction is followed wires may be run through floor without insulating tubes, provided a similar air space be maintained.

22. Interior Conduits:

a. Must be continuous from one junction box to another, or to fixtures and must be of material that will resist the fusion of the wire or wires they contain, without igniting the conduit.

b. Must not be of such material or construction that the insula-

tion of the conductor will ultimately be injured or destroyed by the elements of the composition.

c. Must be first installed as a complete conduit system, without conductors, strings or anything for the purpose of drawing in the conductors, and the conductors then to be pushed or fished in. The conductors must not be placed in position until all mechanical work on the building has been, as far as possible, completed.

d. Must not be so placed as to be subject to mechanical injury by saws, chisels or nails.

e. Must not be supplied with a tin conductor, or two separate conductors, in a single tube.

f. Must have all ends closed with good adhesive material, either at junction boxes or elsewhere, whether such ends are concealed or exposed. Joints must be made air-tight and moisture proof.

g. Conduits must extend at least one inch beyond the finished surface of walls or ceilings until the mortar or other material
76 be entirely dry, when the projection may be reduced to half an inch.

23. Double Pole Safety Cut-Outs:

a. Must be in plain sight or enclosed in an approved box, readily accessible.

b. Must be placed at every point where a change is made in the size of the wire (unless the cut-out in the larger wire will protect the smaller.)

c. Must be supported on bases of non-combustible, insulating, moisture-proof material.

d. Must be supplied with a plug (or other device for enclosing the fusible strip or wire) made of non-combustible and moisture-proof material, and so constructed that an arc cannot be maintained across its terminals by the fusing of the metal.

e. Must be so placed that no group of lamps requiring current of more than five amperes shall be ultimately dependent upon one cut-out. Special permission may be given for departure from the above.

f. All cut-out blocks must be stamped with their maximum safe-carrying capacity in amperes.

24. Safety Fuses:

a. Must all be stamped or otherwise marked with the number of amperes at which they will fuse.

b. Must have fusible wires or strips, where the plug or equivalent device is not used, and where over five amperes of current is carried with the surfaces or tips of harder metal, soldered or otherwise, having perfect electrical connection with the fusible part of the strip.

c. Must all be so proportioned to the conductors they are intended to protect that they will melt before the maximum safe-carrying capacity of the wire is exceeded.

25. Table of Capacity of Wires:

It must be clearly understood that the size of the fuse depends upon the size of the smallest conductor it protects, and not upon the amount of current to be used on the circuit. Below is a table showing the safe-carrying capacity of conductors of different sizes in

Brown and Sharp gauge, which must be followed in the placing of interior conductors:

77

Table A. Concealed work. B. & S. G.	Amperes.	Table B. Open work. Amperes.
0000	218	312
000	181	262
00	150	220
0	125	185
1	105	156
2	88	131
3	75	110
4	63	92
5	53	77
6	45	65
8	33	46
10	25	32
12	17	23
14	12	16

26. Switches:

a. Must be mounted on moisture-proof and non-combustible bases such as slate or porcelain.

b. Must be double pole when the circuits which they control supply more than five (5) amperes of current.

c. Must have a firm and secure contact; must make and break readily and not stop when motion has once been imparted by the handle.

d. Must have carrying capacity sufficient to prevent heating.

e. Must be placed in dry, accessible places and be grouped as far as possible, being mounted—when practicable—upon slate or equally non-combustible back boards. Jack-knife switches, whether provided with friction or spring stops, must be so placed that gravity will tend to open rather than close the switch.

27. Fixture Work:

a. In all cases where conductors are concealed within, the latter must be insulated from the gas pipe system of the building by means of approved joints. The insulating and material used in such joints must be of a substance not affected by gas, and that will not shrink or crack by variation in temperature. Insulating joints, with soft rubber in their construction, will not be approved.

b. Supply conductors, and especially the splices to fixture wires, must be kept clear of the grounded parts of gas pipes, and where shells are used the latter must be constructed in a manner affording sufficient area to allow this requirement.

c. Fixtures must never be wired outside.

d. All conductors for fixture work must have a solid waterproof insulation that is durable and not easily abraded, and must not in any case be smaller than No. 18 B. & S., No. 20 B. W. G., No. 2 E. S. G.

e. All burrs or fins must be removed before the conductors are drawn into a fixture.

f. The tendency to condensation within the pipes should be guarded against by sealing the upper end of the fixture.

g. No combination fixture in which the conductors are concealed in a space less than one-fourth inch between the inside pipe and the outside casing will be approved.

h. Each fixture must be tested for "contacts" between conductors and fixtures, for "short circuits," and for ground connections before the fixture is connected to its supply conductors.

i. Sealing blocks of fixtures should be made of insulating material; if not, the wires in passing through the plate must be surrounded with hard rubber tubing.

28. Arc Lights on Low Potential Circuits:

a. Must be supplied by branch conductors which will carry a current twenty-five per cent in excess of the rated capacity of the lamps.

b. Must be connected with main conductors only through double pole cut-outs.

c. Must only be furnished with such resistances or regulators as are enclosed in non-combustible material, such resistances being treated as stoves.

Incandescent lamps must not be used for resistance devices.

d. Must be supplied with globes and protected as in the case of arc lights on high potential circuits.

29. Electric Gas Lighting:

Where electric gas lighting is to be used on the same fixture with an electric light

79 *a.* No part of the gas piping shall be in electrical connection with the gas lighting circuit.

b. The wires used with the fixtures must have a non-inflammable insulation, or, where concealed between the pipe and shell of the fixture, the insulation must be such as required for fixture wiring for the electric light.

c. The whole installation must test free from "grounds."

d. The two installations must test perfectly free from connection with each other.

30. Sockets:

a. No portion of the lamp socket exposed to contact with outside objects must be allowed to come into electrical contact with either of the conductors.

b. In rooms where inflammable gases may exist, the incandescent lamp and socket must be enclosed in a vapor-tight globe.

c. No key socket shall be used for a lamp consuming over one ampere of current.

31. Flexible Cord:

a. Must be made of conductors, each surrounded with a moisture-proof and non-inflammable layer, and further insulated from each other by a mechanical separator of carbonizable material. Each of these conductors must be composed of several strands.

b. Must not sustain more than one light not to exceed 50-candle power.

c. Must not be used except for pendants or for portable lamps or motors when protected by individual fuse.

d. Must not be used in show windows.

e. The ends of the cord must be protected by insulating bushings where the cord enters the socket.

f. Must be so suspended that the entire weight of the socket and lamp will be borne by knots under the bushings in the socket, and above the point where the cord comes through the ceiling block or rosette, in order that the strain may be taken from the joints and binding screws.

g. Should be equipped with keyless sockets, as far as practicable, and be controlled by wall switches.

80

Class D.

Alternating Systems—Converters or Transformers.

32. Converters:

a. Must not be placed inside of any building, except the Central Station, unless by special permission.

b. Must not be placed in any but metallic or other non-combustible cases.

c. Must not be attached to the outside wall of any frame or wooden building, nor shall it be attached to any brick or stone building unless separated therefrom by substantial insulating supports and be protected by a hood or other device as may be required by the City Electrician or person in charge of said department.

In those cases where it may not be possible to exclude the converters and primary wires entirely from the building, the following precautions must be strictly observed:

33. Converters should be located at a point as near as possible to that at which the primary wires enter the building, and must be placed in a room or vault constructed of or lined with fire-resisting material, and used only for the purpose. They must be effectually insulated from the ground, and the room in which they are placed be practically air-tight, except that it shall be thoroughly ventilated to the outdoor air if possible through a chimney or flue.

34. Primary Conductors:

a. Must each be heavily insulated with a coating of moisture-proof material from the point of entrance to the transformer, and in addition, must be so covered and protected that mechanical injury to them or contact with them shall be practically impossible.

b. Must each be furnished, if within a building, with a switch and a fusible cut-out where the wires enter the building, or where they leave the main line, on the pole or in the conduit. These switches should be enclosed in secure and fireproof boxes preferably outside the building.

c. Must be kept apart at least ten inches, and at the same distance from all other conducting bodies when inside a building.

35. Secondary Conductors:

a. Must be installed according to the rules for "Low Potential Systems."

81

Class E.**Electric Railways.**

36. All rules pertaining to arc light wires and stations shall apply (so far as possible) to street railway power stations and their conductors in connection with them.

37. Power Stations:

a. Must be equipped in each circuit as it leaves the station with an approved automatic "breaker," or other device that will immediately cut off the current in case the trolley wires become grounded. This device must be mounted on a fireproof base, and in full view and reach of the attendant.

38. Trolley Wires:

a. Must be no smaller than No. 1, B. & S. copper or No. 4, B. & S. silicon bronze, and must readily stand the strain put upon them when in use.

b. Must be well insulated from their supports, and in case of the side or double pole construction, the supports shall also be insulated from the poles immediately outside of the trolley wire.

c. Must be capable of being disconnected at the power house, or of being divided into sections, so that in case of fire in the railway route the current may be shut off from the particular section, and not interfere with the work of the firemen. This rule also applies to feeders.

d. Must be safely protected against contact with all other conductors.

39. Car Wiring:

a. Must be always run out of reach of the passengers, and must be insulated with a waterproof insulation.

40. Lighting and Power from Railway Wires:

a. Must not be permitted, under any pretense, in the same circuit with trolley wires with a ground return nor shall the same dynamo be used for both purposes, except in street railway cars, electric car houses, and their power stations.

41. Car Houses:

82 Must have special cut-outs located at a proper distance outside, so that all circuits within any carhouse can be cut out at one point.

42. Ground Return Wires:

Where ground return is used it must be so arranged that no difference of potential will exist greater than five volts to 50 feet, or 50 volts to the mile between any two points in the earth or pipes therein.

Class F.

43. Storage or Primary Batteries:

a. When current for light and power is taken from primary or secondary batteries, the same general regulations must be observed as apply to similar apparatus fed from dynamo generators developing the same difference of potential.

b. All secondary batteries must be mounted on approved insulators.

c. Special attention is directed to the rules for rooms where acid fumes exist.

d. The use of any metal liable to corrosion must be avoided in connections of secondary batteries.

Miscellaneous

44. a. The wiring of each completed installation must have an insulation of resistance of one megohm per mile of conductor.

b. Ground wires for lighting arresters of all classes, and ground detectors, must not be attached to gas pipes within the building.

c. No other electric service wires will be allowed in the same raceways or ducts with electric light wires.

d. The following formula for soldering fluid is suggested:

Saturated solution of zinc.....	5 parts
Alcohol	4 parts
Glycerine	1 part

83

Definitions.

Definitions of the word APPROVED as used in these Rules:

Rule 2. Care and Attendance:

Approved waste cans shall be made of metal, with legs raising can three inches from the floor, and with self-closing covers.

Rule 8. Motors:

SEC. c. From the nature of the question, the decision as to what is an approved case must be left to the Inspector to determine in each instance.

Rule 12. Interior Conductors:

SEC. a. Flexible tubing is approved as specified under this rule.

SEC. d. Insulation that will be approved for interior conductors must be solid, at least 7-100 of an inch in thickness, and covered with a non-inflammable substance braid. It must not readily carry fire, must show an insulating resistance of one megohm per mile after two weeks' submersion in water 70° Fahrenheit and three days' submersion in lime water, with a current of 550 volts and after three minutes' electrification.

SEC. f. Flexible tubing is approved as specified under this rule

Rule 13. Arc Lamps:

SEC. c. The hand switch to be approved, if placed anywhere except on the lamp itself, must comply with requirements for switches on hanger boards as laid down in new Section (g) of Rule 13.

SEC. f. An approved spark arrester is one which will so close the upper orifice of the globe that it will be impossible for any sparks thrown off by the carbons to escape.

Rule 15. Outside Overhead Conductors:

SEC. b. An approved fusible cut-out must comply with the sections of Rules 23 and 24 describing fuses and cut-outs.

Rule 17:

The switch required by this rule to be approved must be double pole, must plainly indicate whether the current is "on" or "off," and must comply with Sections *a*, *c*, *d*, and *e*, of Rule 84 26 relating to switches.

Rule 18. Conductors:

Sec. *a*. The insulating covering of the wire, to be approved must be solid, at least 3-64 of an inch in thickness, and covered with a non-inflammable substantial braid. It must not readily carry fire, must show an insulating resistance of one megohm per mile after two weeks' submersion in water at 70 degrees Fahrenheit, and three days' submersion in lime water, with a current of 550 volts and after three minutes' electrification.

Sec. *b*. Second paragraph. Except for Floors, and for places liable to be exposed to dampness, Glass, Porcelain, Metal-sheathed Interior Conduit, and Vulca Tube, when made especially for bushings, will be approved. The two last named will not be approved if cut from the usual lengths of tube made for conduit work, nor when made without a head or flange on one end.

Rule 21. Special Wiring:

Sec. *b*. The insulating covering of the wire to be approved under this section must be solid, at least 3-64 of an inch in thickness, and covered with a non-inflammable substantial braid. It must not readily carry fire, must show an insulating resistance of one megohm per mile after two weeks' submersion in water 70 degrees Fahrenheit, and three days' submersion in lime water with a current of 550 volts after three minutes' electrification, and must also withstand a satisfactory test against such chemical compounds or mixtures as it will be liable to be subjected to in the risk under consideration.

Rule 23. Double Pole Safety Cut-Outs:

Sec. *a*. To be approved, boxes must be constructed, and cut-outs arranged, whether in a box or not, so as to obviate any danger of the melted fuse metal coming in contact with any substance which might be ignited thereby.

Rule 27. Fixture Work:

Sec. *a*. Insulating joints to be approved must be entirely made of material that will resist the action of illuminating gases, and will not give way or soften under the heat of an ordinary gas flame.

85 They shall be so arranged that a deposit of moisture will not destroy the insulating effect, and shall have an insulating resistance of 250,000 ohms between the gas pipe attachments, and be sufficiently strong to resist the strain they will be liable to in attachment.

Rule 37. Power Stations:

Sec. *a*. Automatic circuit breakers should be submitted for approval before being used.

Rule 43. Storage or Primary Batteries:

Sec. *b*. Insulators for mounting secondary batteries to be approved must be non-combustible, such as glass or thoroughly vitrified and glazed porcelain.

Notice of the approval of certain wires and materials and the interpretation of certain rules.

Rule 4. Switch Boards:

SEC. a. Special attention is called to the fact that switch boards should not be built down to the floor, nor up to the ceiling, but a space of at least eighteen inches or two feet, should be left between the floor and the board, and between the ceiling and the board, in order to prevent fire from communicating from the switch board to the floor or ceiling, and also to prevent the forming of a partially concealed space very liable to be used for storage of rubbish and oily waste.

Rule 5. Resistance Boxes:

SEC. a. The word "frame" in this section relates to the entire case and surrounding of the rheostat, and not alone to the upbuilding supports.

Rule 9. Resistance Boxes:

SEC. a. The word "frame" in this section relates to the entire case and surrounding of the rheostat, and not alone to the upholding supports.

Class B:

Any circuit attached to any machine, or combination of machines which develop over 300 volts difference of the potential between any two wires, shall be considered as a high potential circuit, and coming under that class, unless an approved transforming device is used, which cuts the difference of potential down to less than 300 volts.

Rule 10. Outside Conductors:

86 SEC. f. All joints must be soldered, even if made with the McIntyre or any other patent splicing device. This ruling applies to joints and splices in all classes of wiring covered by these Rules.

Rule 15. Outside Overhead Conductors:

SEC. b. The cut-out required by this section must be placed so as to protect the switch required by Rule 17.

Rule 16. Underground Conductors:

SEC. b. The cut-out required by this section must be placed so as to protect the switch.

Rule 22. Interior Conduits:

The American Circular Loom Co. Tube, the Interior Conduit Tube, and the Vulca Tube are approved for the class of work called for in this rule.

Materials.—The following are given as a list of Non-Combustible, Non-(Absor-tive), Insulating Materials, and are listed here for the benefit of those who might consider hard rubber, fibre, wood, and the like as fulfilling the above requirements. Any other substance which it is claimed should be accepted, must be forwarded for testing before being put on the market:

1. Thoroughly vitrified and glazed porcelain.
2. Glass.
3. Slate without metal veins.
4. Pure sheet mica.

- 5. Marble, (filled).
- 6. Lava, (certain kinds of).
- 7. Alberene stone.

Wires:

The following wires having been accepted by the Underwriters' International Electric Association, we shall accept them until further notice. Due notice will be given of additions or corrections to the list:

- Americanite.
- Bishop.
- Canvasite.
- Crescent.
- Crown.
- Clark.

- 87 Edison Machine.
- Grimshaw, (white core).
- Habirshaw, (red core).

- Kerite.
- National India Rubber Co., (N. I. R.)
- Okonite.
- Paranite.
- Raven Core.

Safety Insulated. {Requa white core.
 {Safety black core.

Salamander, (rubber covered).

Simplex, (caoutchouc).

None of the above wires to be used unless protected with a substantial braided outer covering.

SEC. 14. That all companies, firms, corporations or individuals doing wiring, for arc, incandescent lighting, or for motors, shall first procure a license from the City Clerk or other person authorized by law or ordinance to issue licenses, upon the payment of five (\$5.00) dollars, and passing an examination before an examining board, composed of the City Electrician or other person in charge of said office, the Superintendent of the City Fire and Police Alarm, and the City Gas Inspector; which fact shall be certified to the City Clerk by the City Electrician or other person in charge of said department (the City Electrician to be ex-officio secretary of said examining board) showing that said applicant is competent and qualified to do and perform all the work required by this ordinance in a safe, workmanlike and reliable manner and that license should issue to such applicant. Provided that before such license shall issue, said company, firm, corporation or individual shall deposit with the City Treasurer the sum of fifty dollars (\$50.00) by him to be held and known as an Electrical Fund, to be used only to make good any defect or damage caused by negligence, defective or inferior work of the party making such deposit, and upon the expiration of such license to be returned by order of the Mayor and Council upon a certificate being filed with the City Clerk by the City Electrician or other person in charge of said department that there are

88 no charges against or demands due from such person; and provided further, that the company, firm, corporation or individual shall give a bond to the city in the sum of one thousand dollars conditioned that they will in good faith perform all the things required of them under the provisions of this ordinance; said bond to be approved by the Mayor and Council and to be filed with the City Clerk.

SEC. 15. Any person, company or corporation who shall violate any of the provisions of this ordinance, or fail, neglect or refuse to comply with the rules and provisions of this ordinance or who shall refuse, fail or neglect to comply with any order or request of the City Electrician or other officer in charge of said department in pursuance of and by the authority of any of the provisions of this ordinance or rules therein contained, shall be deemed guilty of a misdemeanor, and upon conviction thereof in the Police Court shall be fined in any sum not less than twenty dollars nor more than two hundred dollars or be imprisoned not exceeding thirty (30) days or be both fined and imprisoned at the discretion of the Court.

SEC. 16. That Ordinance No. 3391 be and the same is hereby repealed.

SEC. 17. That this ordinance shall take effect and be in force from and after its passage.

Passed March 20, 1894.

[SEAL.]

W. C. WAKELEY, *City Clerk.*

EDWARD E. HOWELL,

President City Council.

Approved March 26, 1894.

GEORGE P. BEMIS, *Mayor.*

89

EXHIBIT "E."

Ordinance No. 4366.

An Ordinance declaring the duties of the City Electrician and establishing rules and regulations concerning electric work, wires and poles, and providing penalties for the violation of the provisions of said ordinance and rules established thereunder and by virtue thereof; also to repeal Ordinance- No. 3791 and 3792.

Be it ordained by the City Council of the City of Omaha:

SECTION 1. No electric current shall be used for illumination, decoration, power or heating, except as hereinafter provided.

SEC. 2. All persons, firms or corporations desiring to make use of electric currents for any of the purposes mentioned in the preceding section of this ordinance shall, before commencing or doing any electrical construction work of any kind whatever, either installing new apparatus or repairing apparatus already in use, or changing the plan of wiring of any building or section thereof, file plans and specifications showing such apparatus or wiring and an application for a permit therefor in the office of the city electrician, which shall

describe in detail the plan of construction and material and apparatus it is desired to use, giving the locality by street and number, and upon receipt of which application, if found proper, such permit shall be given.

SEC. 3. The said city electrician shall have power, and it shall be his duty, when by him deemed necessary, to carefully inspect any such installation previous to and after its completion, and it shall be competent for him to remove any existing obstructions which may prevent a perfect inspection of the current-carrying conductors, such as laths, plastering, boarding, or flooring; and if such installation shall prove to have been constructed in accordance with the rules and requirements of the City of Omaha, controlling the use of electric currents, he shall issue a certificate of such inspection, which shall contain a general description of the installation and the date of said inspection. The use of electric current is hereby declared to be unlawful previous to the issuance of said certificate, or if said certificate be revoked; provided, however, the city electrician may issue a temporary permit for the use of electric current during the course of construction or alteration of buildings, which permit shall expire when the electrical apparatus for such building is fully installed.

SEC. 4. A preliminary certificate may be issued by said city electrician in the case of completed installation, but upon which no current will be used in the immediate future. Such preliminary certificate shall show that at the date of inspection the installation was erected in accordance with the terms of this ordinance. Prior to the introduction of electric current into the said premises, a second inspection shall be made, when, if said installation is still in accordance with the terms of this ordinance, a complete and final certificate shall issue. Any owner or owners of property installing electric wires to be hidden from view shall, prior to covering such wires, give said city electrician a reasonable notice in order to give ample time for inspection.

SEC. 5. It shall be unlawful for any person, company, association or corporation to make any excavation in any street, alley or sidewalk or public ground in the City of Omaha, or to erect any poles therein for the purpose of placing or stringing any wires thereon, any telegraph, telephone, electric light or power wire, or to place any conductors for the carrying of electric energy for light, heat, power or any other purpose, without first obtaining a written permit and authority so to do from the city electrician and after making application for such authority and permit. Such application shall state in detail the location, number, height and size of the poles to be erected, the size and insulation of wires, the amount to be strung and for what purpose they are to be used, and all such poles and conductors shall be erected in such manner only as said city electrician shall authorize, permit and direct.

SEC. 6. The said city electrician is hereby empowered and it is made his duty to regulate and determine the placing of poles, the placing, stringing or attaching of telegraph, telephone, district, electric light, power and other wires used for transmitting electrical energy and their supports so as to prevent

fire, accident or injury to persons or property, and to cause all electric conductors, apparatus and their supports to be so placed, constructed and guarded as not to cause fires, accidents or endanger life or property, and any and all of such conductors, apparatus, and their supports now existing, as well as those hereafter constructed and placed, shall be subject to such regulations.

SEC. 7. The said city electrician is hereby empowered and it is made his duty to inspect or re-inspect all overhead, underground and interior wires, apparatus and their supports used for conducting electric current for light, heat or power at least once each year, and when said conductors, apparatus or their supports are found to be unsafe to life or property, shall notify the persons, firms or corporations owning, using or operating them to place the same in a safe and secure condition within forty-eight (48) hours. Any person, firm or corporation failing or refusing to repair, change or remove the same within forty-eight (48) hours after the receipt of such notice, shall be subject to a penalty of ten dollars (\$10.00) for each and every day such conductors, apparatus or their supports continue to be in an unsafe condition.

SEC. 8. That the said city electrician shall have the power to cause the removal of all electrical conductors, apparatus or their supports, or the turning off of the current from any circuit or building if not in compliance with the rules of this ordinance or where the same interfere with the work of the fire department.

SEC. 9. That the city electrician shall cause all wires and poles that have not been used for thirty (30) days, and which are known as dead wires "dead poles" to be removed at the expense of the owners, and during said period when said wires are not used they shall be kept in as safe a condition as the wires in use. All dead wires of telephone companies shall be detached from the building in which the same have been used, and they shall be grounded at the pole nearest said building.

SEC. 10. That all fees herein required shall be paid to the city treasurer, who shall receipt for the same in duplicate, one of which receipts shall be filed in the office of the city electrician before any permit or certificate required by this ordinance or its rules shall be issued.

SEC. 11. There shall be charged by the city electrician for the issuance of permits to erect and place electric conductors and apparatus the following fees:

For are lamp installation the sum of.....	\$1.00
For each incandescent lamp or nominal 16 candle power (and for larger or small lamps in that proportion) not exceeding 100 16 candle power lamps, the sum of....	.05
For each additional 16 candle power lamp above 100 16 candle power lamps, an additional sum of .....	.02
But no permit shall be issued for incandescent lamps for a less amount than the sum of.....	1.00
For motors of one electrical horse power (746 watts) or fractional horse power, the sum of.....	1.00

For each horse power or fraction thereof above one (1) horse power an additional sum of.....	.25
Dynamos to be rated as motors, except when installed in connection with lamps or other translating devices, in which case the charge shall be made for the lamps only, as specified in this section. But no charge to exceed the sum of Ten Dollars (\$10.00) shall be made for any one motor or dynamo installation.	
Fan-motors on incandescent lamp circuits shall be rated as incandescent lamps.	
For permits of temporary installation shall be charged the sum of	1.00
Provided, however, that no such permit and certificate shall be issued for any longer time than 30 days.	
For each outside construction permit the sum of.....	1.00
And for each pole set under such permit the additional sum of .....	.25
Provided, that fees for permits as specified in this section shall cover all costs of inspection and certificate of inspection.	
Inspection fees shall be charged for the annual re-inspection of isolated electric light plants and all outside work at the rate of, per hour.....	.50

SEC. 12. That the city electrician shall keep or cause to be kept a full and complete daily record of all work done, permits issued, examinations made, or other official work performed, and
 93 render a full report thereof to the mayor and city council on or before the first Tuesday of January of each year.

SEC. 13. No alterations shall be made in any installation without first notifying the said city electrician and submitting the same for similar inspection as above provided.

SEC. 14. All persons, firms or corporations engaged in commercial lighting and power transmission, and furnishing current to consumers, shall on the first day of each month furnish the city electrician with a statement of the number of arc, incandescent lamps and motor installations connected by them to their system, and also the number of installations of which the service has been discontinued, giving the name of subscribers and locality by street and number.

SEC. 15. The said city electrician shall have the right, and it is made his duty, to prescribe from time to time, reasonable rules and regulations for carrying out and enforcing the provisions of this ordinance, such rules and regulations to be approved by the mayor and council, and shall have the right to enforce the same as well as the provisions of this ordinance.

SEC. 16. That all companies, firms, corporations or individuals doing wiring for arc, incandescent light, for motors, electric light fixtures, gas lighting, house annunciators, telephone, automatic fire alarms, and outside construction for light, heat, power, telephone, telegraph or district service, shall first procure a general permit from the city electrician, upon the payment of Five Dollars (\$5.00) and passing an examination before an examining board composed of

the city electrician, city engineer, and the chief of the fire department (the city electrician to be ex-officio secretary of said examining board), showing that said applicant is competent and qualified to do and engage in such work. Provided that before such permit shall issue, said company, firm, corporation or individual shall deposit with the City Treasurer the sum of \$50.00 by him to be held and known as an electrical fund, to be used only to make good any defect or damage caused by negligence, defective or inferior

94 work of the party making such deposit and upon the expiration of such permit to be returned by order of the Mayor and Council upon a certificate being filed with the City Clerk by the City Electrician and be it further provided that before such permit shall issue, said company, firm, corporation or individual shall give a bond to the city in the sum of One Thousand Dollars (\$1,000), conditional that they will in good faith perform all the things required of them under the provisions of this ordinance; said bond to be approved by the mayor and council and to be filed with the city clerk.

SEC. 17. Any person, company or corporation who shall violate any of the provisions of this ordinance or fail, neglect or refuse to comply with the rules and provisions of this ordinance, or who shall interfere and tamper with any electrical apparatus and current carrying conductors, or who shall refuse, fail or neglect to comply with any order or request of the city electrician in pursuance of and by the authority of any of the provisions of this ordinance or rules therein contained, shall be deemed guilty of a misdemeanor, and upon conviction thereof in the police court shall be fined in any sum not less than Ten Dollars (\$10.00) nor more than Two Hundred Dollars (\$200.00), or be imprisoned not exceeding thirty (30) days, or be both fined and imprisoned at the discretion of the court.

SEC. 18.

Rules and requirements of the City of Omaha, Nebraska, for the installation of overhead and underground wires.

Rule 1. Before any wires, cables or conductors are run for any purpose on poles or fixtures or from the top of any building to the point of entering any building for service, or over the roofs of buildings, notice shall be served by the party doing the work to the city electrician.

Rule 2. When a line is completed and ready for inspection, a report must be made in writing stating to what poles and fixtures the same has been attached, and no current shall be transmitted over such line until a certificate of inspection has been issued therefor by the city electrician.

SEC. 19. That the rules and regulations of the National Board of Fire Underwriters known as "The National Electric Code" of 1897 be and are hereby adopted as the rules and requirements of 95 the City of Omaha, Nebraska, for electrical construction work.

SEC. 20. That ordinance No. 3791 entitled "An ordinance defining the duties of the city electrician and establishing rules and regulations concerning electrical work, wires and poles and provid-

ing penalties for the violation of the provisions of said ordinance, and rules established thereunder and by virtue thereof; also to repeal ordinance No. 3391 and also ordinance 3792, be and the same is hereby repealed.

SEC. 21. That this ordinance shall take effect and be in force from and after its passage.

Passed March 1, 1898.

[SEAL.]

BEECHER HIGBY,
City Clerk.
W. W. BINGHAM,
President City Council.

Approved March 3, 1898.

FRANK E. MOORES, *Mayor.*

This Agreement made and entered into this 4th day of March, 1902, by and between The New Omaha-Thomson-Houston Electric Light Company, hereinafter called the Company, and the City of Omaha, hereinafter called the City,

Witnesseth: That for and in consideration of the covenant and agreements hereinafter contained, and under penalty of a bond for Ten Thousand Dollars, which said bond is hereto annexed, the said The Company, does hereby agree with the said The City, to light the streets, alleys and public grounds and buildings of the City of Omaha, in accordance with the following terms and conditions, to-wit:

There being an agreement by and between the parties hereto, covering the lighting of the streets, alleys and public grounds of the City of Omaha, for a term of years, which term will expire on the 31st day of December, A. D., 1902, which term both parties desire to extend, it is now agreed by and between the parties hereto, that the said term of lighting shall be extended, under and by virtue of this agreement, for a period of three years from the 31st day of December, A. D. 1902, and until the 31st day of December, A. D., 1905, during which term all electric lamps and lights required by the city for lighting the streets, alleys, public grounds and public buildings in the City of Omaha, shall be furnished by the Company.

In further consideration of the extension of the term of said contract the Company hereby agrees to reduce the price of all arc lights herein provided for, to the sum of Ninety-four and Fifty One-hundredths Dollars per light per year, from January 1st, 1902.

It is mutually agreed that the Company shall, at all times, furnish and the City shall use and pay for, not less than Three Hundred (300) arc lights, in accordance with the terms of this agreement.

For operating at normal candle power, each arc light shall be supplied constantly, when in use, with six and six-tenths (6 6-10) amperes of current at a difference of potential of not less than

seventy (70) volts measured at the terminals of the lamp, or the equivalent in watts, and either direct or alternating current lights may be used at the option of the Company.

To enable tests of the amount of electrical energy being furnished to be made by the City Electrician, the Company hereby agrees to run one of its municipal circuits into the office of the city electrician in the City Building, and to maintain the same during the period covered by this contract, and allow the City Electrician, at such times as he may desire, to test the same as to the amount of electrical energy supplied. The Company further agrees to permit the City Electrician, or the proper officers representing the City, to enter its power house at any reasonable hour, for the purpose of measuring the amount of electrical energy that is being furnished on all streets or lighting circuits, or for the purpose of making other tests that are reasonably necessary under the operation of this contract.

All arc lights shall be lighted by the Company every night during the said term at twilight, and be kept continually lighted until daylight, and they shall be kept in perfect order by, and at the expense of the Company.

All arc lights shall be located at the places designated by the Mayor and City Council, except that it is mutually agreed that no arc lights shall be placed at such a place (without the assent of the Company) that in order to reach said place an extension of the circuits of the company of more than One Thousand (1,000) feet shall be required.

After an arc light has been located and erected in place, it shall be moved upon request of the City, but the cost of such removal to another location, shall be borne by the City.

The Company further agrees that in placing the said arc lights in position, in digging and excavating in the streets, in erecting poles and wires, in making repairs, in laying underground conduits or in doing any other act required by any ordinance of the City, and in the use or maintaining of its structures and plant, it will carefully observe and comply with all ordinances of the City of Omaha, and will also indemnify and save the City harmless against all suits and actions brought against it for any injuries or damages sustained by any person or persons, by reason of the maintaining of said electric lights, wires or poles, or other structures or parts of the Company's plant, which shall be due to the negligence of the Company or by reason of the failure of the Company to do or perform any of the said acts or things.

Therefore, in consideration of the faithful compliance with the terms and conditions herein contained, the City of Omaha hereby agrees to pay to the Company at the rate of Ninety-four and Fifty one-hundredths Dollars per year, for each of said arc lights so furnished and used, and for every failure or neglect to light any of said arc lights, or when said arc lights are lighted they shall consume less electrical energy than the quantity hereinbefore mentioned. the Company shall rebate to the City, the proportion of the rates above mentioned, for the time such light or lights shall fail to burn or for any shortage in the consumption of electrical energy which amount

may be deducted from the sum owing to said Company under this contract. The Company agrees to furnish electric lights for the City Hall, and any other public buildings belonging to the City and the City hereby agrees to pay for all incandescent lights that may be used by said City, the regular commercial rates therefor. All sums due and payable to the Company, by virtue of this agreement shall be paid monthly to the Company by the City.

And in further consideration of the extension of the terms hereby agreed upon, the Company hereby agrees to pay to the City a sum equal to Three (3) per cent of its gross receipts from business done within the City, not including any revenue from the City. Said payments to be made annually, from the first day of January, 1902, during the life of this agreement, and any renewal or extension that may hereinafter be made of the same.

In Witness Whereof, the said parties have caused these presents to be duly executed and attested, and their respective seals to be attached the date first above written.

THE NEW OMAHA-THOMSON-HOUSTON
ELECTRIC LIGHT CO.,

By F. A. NASH,

President.

"THE CITY OF OMAHA,"

By FRANK E. MOORES,

Mayor.

Attest: [SEAL.]

S. E. SCHWEITZER,

Secretary.

Attest:

W. H. ELBOURN,

[SEAL.]

City Clerk.

100

EXHIBIT "G."

Ordinance No. 5051.

An Ordinance requiring all electrical and other wires, when used for electric light, heat, power and other commercial purposes, excepting those used for propelling street cars, and telegraph and telephone wires to be placed underground in a portion of the city of Omaha.

Be it ordained by the City Council of the City of Omaha:

SEC. 1. That all persons and companies owning, maintaining or operating electric wires or other wires in the City of Omaha, and in the district hereinafter defined, for the transmission of electricity for light, heat and power, shall on or before the first day of May, 1903, place underground all such wires, and after said date, no persons or companies shall be permitted to maintain in said district in any streets, alleys, or public grounds of said City any electric or other wires, without first complying with the provisions of this

ordinance, excepting however such feeder and trolley wires as may be used for propelling street cars and telegraph and telephone wires.

SEC. 2. The district mentioned in section one (1) of this ordinance, shall be that portion of the City bounded on the east by Eighth Street, on the west by Eighteenth Street, on the south by Howard Street, and on the north by Capitol Avenue, but nothing herein contained shall be construed to prevent the enlargement of such district from time to time as the growth of the City may require.

SEC. 3. For the purpose of complying with the requirements of this ordinance all persons or companies shall, on or before the expiration of the time aforesaid, construct in the streets and alleys of the City within said district, underground conduits with all necessary appliances and devices to make the work modern, safe and efficient, all such construction shall be located in alleys, when possible, in preference to streets, and shall be located under the supervision of the City Electrician.

101 SEC. 4. Distributing poles for wires may be placed in the alleys between streets, providing no such pole or poles are placed within fifty feet of the curb line of said streets and in no case will overhead wires from such poles be allowed to cross the streets; for street arc lights and lighting street intersections, laterals may be run from the main subway.

SEC. 5. Before constructing any of the work hereby required, the said persons or companies shall file with the board of public works a plan and map and all necessary details of the work with specifications showing the material to be used and the method of construction to be employed all of which shall be subject to the inspection of the City Electrician; and no such construction shall be commenced until the plans and specifications shall have been approved by the Board of Public Works and all such construction shall be carried on under the direction of the Board of Public Works.

SEC. 6. All persons or companies constructing such subways shall as fast as the construction of such subways or conduit progresses, promptly fill all openings in the streets and alleys and relay all curbing, paving and guttering, which may necessarily be removed in the construction of the work, and shall pay all damages for personal and other injuries that may occur, either to private individuals or corporations as well as to the City of Omaha, resulting from or growing out of the negligence or want of care of said persons or companies in the construction of any of the work herein required.

SEC. 7. The location of the underground work herein provided for shall not interfere with sewers constructed or in progress of construction or with gas or water pipes already laid or with the underground work of any telephone company, and must be located and constructed without unnecessary injury or inconvenience to the public.

SEC. 8. All the provisions of this ordinance shall be applicable to any other district hereafter created or to any part of the City which by extension of the district herein defined shall be included therein.

SEC. 9. Any person or companies who shall maintain any electric

wires, or other wires, in the streets or alleys of the City of
 102 Omaha in violation of this ordinance shall on conviction be
 punished by a fine not exceeding One Hundred Dollars
 (\$100.00) and all such electric wires or other wires may be removed
 by the City Electrician after thirty days' notice in writing.

SEC. 10. This ordinance shall take effect and be in force from and
 after its passage, and approval.

Passed March 5, 1902.

[SEAL.]

W. H. ELBOURN,

City Clerk.

MYRON D. KARR,

President City Council.

Approved March 8, 1902.

FRANK E. MOORES,

Mayor.

103

EXHIBIT "H."

Ordinance No. 5433.

An Ordinance amending Sections 1 and 2 of Ordinance No. 5051,
 approved March 8th, 1902, and repealing said sections as hereto-
 fore existing.

Be it Ordained by the City Council of the City of Omaha:

SEC. 1. That Sections 1 and 2 of Ordinance No. 5051, approved
 March 8th, 1902, be and the same are hereby amended to read as
 follows:

"SEC. 1. That all persons and companies owning, maintaining
 or operating electric wires or other wires in the City of Omaha and
 in the district hereinafter defined, for the transmission of electricity
 for light, heat and power, shall, on or before the 1st day of October,
 1905, place underground all such wires and after said date no per-
 son or companies shall be permitted to maintain in said district in
 any streets, alleys or public grounds of said city, any electric or other
 wires, without first complying with the provisions of this ordinance,
 excepting, however such feeder and trolley wires as may be used for
 propelling street cars, and telegraph and telephone wires.

SEC. 2. The district mentioned in Section 1 of this ordinance
 shall be that portion of the city bounded on the east by the center
 line of Eighth Street; on the south, from the center line of Eighth
 Street to the center line of Thirteenth Street, by the center line of
 Leavenworth Street; on the west, from the center line of Leaven-
 worth Street to the center line of Jackson Street, by the center line
 of Thirteenth Street; on the south, from the center line of Thir-
 teenth Street to the center line of Eighteenth Street, by the center
 line of Jackson Street; on the west, from the center line of Jackson
 Street to the center line of Capitol Avenue, by the center line of
 Eighteenth Street; and on the north by the center line of Capitol
 Avenue; but nothing herein contained shall be construed to prevent

the enlargement of said district from time to time as the growth of the city may require."

104 SEC. 2. Sections 1 and 2 of Ordinance No. 5051, approved March 8th, 1902, as heretofore existing, are hereby repealed.

SEC. 3. This ordinance shall take effect and be in force from and after its passage and approval.

Passed December 13, 1904.

[SEAL.]

W. H. ELBOURN,

City Clerk.

H. B. ZIMMAN,

President City Council.

Approved December 20, 1904.

FRANK E. MOORES,

Mayor.

105

EXHIBIT "I."

This Agreement made and entered into this 12th day of April A. D., 1905, by and between the Omaha Electric Light & Power Company, hereinafter called the Company, and the City of Omaha, hereinafter called the City.

Witnesseth, That for and in consideration of the covenants and agreements hereinafter contained, and under penalty of a bond for \$10,000 to be given by the Company on demand, the Company does hereby agree with the City to light the streets, alleys and public grounds and buildings of the City of Omaha, in accordance with the following terms and conditions, to-wit:

There being an agreement now in force by and between the parties hereto, covering the lighting of the streets, alleys and public grounds of the City of Omaha for a term of years, which term will expire on the 31st day of December, A. D. 1905, which term both parties desire to extend, it is now agreed by and between the parties hereto, that the said term of lighting shall be extended, under and by virtue of this agreement, for a period of four years from the 31st day of December, A. D., 1905, and until the 31st day of December, A. D., 1909, during which term all electric lamps and lights required by the City for lighting the streets, alleys, public grounds and public buildings in the City of Omaha shall be furnished by the Company.

In consideration of the extension of the term of said contract, the Company hereby agrees to reduce the price of all arc lamps herein provided for, to the sum of Seventy-five (\$75.00) Dollars per light per year, commencing on the date this contract shall take effect and be in force.

It is mutually agreed that the Company shall at all times furnish, and the City shall use and pay for, not less than Six Hundred arc lights, in accordance with the terms of this agreement.

For operating at normal candle power, each arc light shall be supplied constantly, when in use, with six and six-tenths (6.6) amperes of current at a difference of potential of not less than seventy

106 (70) volts measured at the terminals of the lamp, or the equivalent in watts; either direct or alternating current lights may be used at the option of the Company.

To enable tests of the amount of electrical energy being furnished to be made by the City Electrician, the Company hereby agrees to run one of its municipal circuits into the office of the City Electrician in the city building, and to maintain the same during the period covered by this contract, and allow the City Electrician, at such times as he may desire, to test the same as to the amount of electrical energy supplied. The Company further agrees to permit the City Electrician, or the proper officers representing the City, to enter its power house at any reasonable hour, for the purpose of measuring the amount of electrical energy that is being furnished on all streets or lighting circuits, or for the purpose of making other tests that are reasonably necessary under the operation of this contract. All arc lights shall be lighted by the Company every night during the said term at twilight, and kept continually lighted until daylight, and they shall be kept in order by, and at the expense of, the Company.

All arc lights shall be located at the places designated by the Mayor and Council, except that it is mutually agreed that no arc lights shall be placed at such a place (without the consent of the Company) that in order to reach said place, an extension of the circuits of the Company of more than One Thousand (1,000) feet shall be required.

After an arc light has been located and erected in place, it shall be moved upon request of the City, but the cost of such removal to another location shall be borne by the City.

The Company further agrees that in placing the said arc lights in position, in digging, and excavating, in streets, in erecting poles and wires, in making repairs, and in laying underground conduits or in doing any other act required by any ordinance of the City, and in the use or maintaining of its structures, and plant, it will carefully observe and comply with all ordinances of the City of Omaha, and will also indemnify and save the City harmless against all suits and actions brought against it for any injuries or damages sustained by any person or persons, by reason of the maintaining of said electric lines, wires or poles, or other structures or parts of the Company's plant, which shall be due to the negligence of the Company or by reason of the failure of the Company to do or perform any of the said acts or things.

Therefore, in consideration of the faithful compliance with the terms and conditions herein contained, the City of Omaha hereby agrees to pay to the Company at the rate of Seventy-five Dollars (\$75.00) per annum, for each of said arc lights so furnished and used, and for every failure or neglect to light any of said arc lights, or when said arc lights are lighted they shall consume less electrical energy than the quantity hereinbefore mentioned, the Company shall rebate to the City the proportion of the rates above mentioned, for the time such light or lights shall fail to burn, or for any shortage in the consumption of electrical energy, which amount may be

deducted from the sum owing to said Company under this contract. The Company agrees to furnish electric lights for the City Hall, and any other public buildings belonging to the City, and the City hereby agrees to pay for all incandescent lights that may be used by the City at the rate of eight (8) cents per one thousand (1,000) watts of all current consumed.

All sums due and payable to the Company by virtue of this agreement shall be paid monthly by the City to the Company at the expiration of each month.

And in further consideration of the terms hereby agreed upon, the Company hereby agrees to pay, during the term, to the City a sum equal to three (3) per cent of its gross receipts from lighting and power business done within the City, not including any revenue derived from the said City, said payments to be made annually, on or before the 10th day of January in each year during the term, and any renewal or extension that may hereafter be made of the same.

It is mutually agreed by the parties that, if at any time after December 31st, A. D., 1908, the City shall require a plant of its own, for street lighting, by electricity, then and in that event the City may, at its option, at once determine this contract, and on
108 notice therefor all further rights and obligations thereunder shall at once cease and determine.

In Witness Whereof, the said parties have caused these presents to be duly executed and attested, and their respective seals to be attached the date first above written.

(Signed)

OMAHA ELECTRIC LIGHT AND
POWER CO.,
By F. A. NASH, *President*.

Attest:

[SEAL.] S. E. SCHWEITZER, *Secretary*.

THE CITY OF OMAHA.
By H. B. ZIMMAN, *Acting Mayor*.

Attest:

[SEAL.] W. H. ELBOURN,
City Clerk.

Ordinance No. 6804.

An Ordinance providing for and assessing an occupation tax on all corporations engaged in the sale of electricity for light, heat or power purposes in the City of Omaha, fixing the amount thereof, providing for the enforcement and collection thereof, and providing interest and a penalty for non-payment when due and payable, and designating the funds to be credited with the amount so paid.

Be it Ordained by the City Council of the City of Omaha:

Section I.

That every corporation engaged in the sale of electricity for light, heat or power purposes to the inhabitants of the City of Omaha, is required to pay an occupation tax, and the amount thereof as hereinafter specified is hereby assessed against said corporation.

Section II.

All corporations engaged in the selling of electricity for light, heat or power purposes to the inhabitants of the City of Omaha, are hereby required to pay to the City of Omaha as an occupation tax, the sum and amount of three per cent, (3%) of the gross receipts of said corporation derived from its business of selling such electricity to the inhabitants of the City of Omaha.

The payment of said occupation tax is to be made as follows: Beginning September 1st, 1909, said corporation shall quarterly thereafter pay the City of Omaha three per cent (3%) of the gross receipts of said corporation for the preceding three months as heretofore provided, as an occupation tax, and all deferred payments shall draw interest at the rate of one per cent (1%) per month from the date when payable, and after payment has been in default for six months a penalty of five per cent (5%) shall be added thereto in addition to the interest charged and shall be paid by said corporation.

Section III.

Such corporation on the 1st day of December, 1909, and each three months thereafter in each year, shall file with the city clerk a full, complete and detailed statement of the income and gross receipts of said business for the preceding three months, and said statement shall be duly verified and sworn to by the managing officer of any such corporation, and the City of Omaha shall have the right at any and all times during business hours to inspect through the comptroller or some other officer appointed by the mayor and council, the books and records of any such corporation for the pur-

pose of verifying such statement. Provided, however, that in case any such company shall refuse, fail or neglect to furnish or file such statement at the time or times specified, then, and in that event the occupation tax for the preceding three months shall be and is hereby fixed and determined to be the sum and amount of Two Thousand Dollars (\$2,000.00) per month, and said sum and amount shall be paid on the first day of the month as provided for the payment of the per cent of gross receipts in section two hereof, and said amount shall draw interest at the rate of one per cent (1%) per month after due and payable, and in addition thereto a penalty of five per cent (5%) for the failure to pay within six months.

Section IV.

In case any such corporation or corporations shall fail to make payment of the occupation tax as herein provided and at the time or times hereinbefore specified, the City of Omaha shall have the right and may sue any such corporation or corporations in any court of competent jurisdiction for the amount of the occupation tax due and payable under the terms and provisions of this ordinance, and may recover a judgment against such corporation or corporations for the amount so due, together with interest and penalties, and may have execution thereon.

Section V.

Said occupation tax shall be paid to the City Treasurer at the time provided in this ordinance and said Treasurer shall
111 issue and deliver his receipt therefor, on the payment thereof, and the amount so paid shall be credited by the Treasurer to the general fund of the City of Omaha.

Section VI.

It shall be the duty of the City Clerk to deliver to the City Treasurer a certified copy of this ordinance levying said occupation tax and append thereto a warrant requiring the said Treasurer to collect said tax.

Section VII.

This ordinance shall take effect and be in force on and after September 1st, 1909.

Passed August 3, 1909.

[SEAL.]

DAN B. BUTLER,

City Clerk.

LOUIS BURMESTER,

President City Council.

Approved August 7, 1909.

JAMES C. DAHLMAN, *Mayor.*

112

EXHIBIT "K."

This Agreement made and entered into this 31st day of December, 1909, by and between the Omaha Electric Light & Power Company, hereinafter called the Company, and the City of Omaha, hereinafter called the City;

Witnesseth:

That the Company agrees to furnish to the city one thousand or more electric arc lights, the number, if over one thousand, to be determined by the city, for street lighting, for a period of three years from the first day of January, 1910, and it is agreed that the Company shall furnish, and the city pay for, not less than one thousand arc lights, in accordance with the terms of this agreement.

The City agrees to pay the sum of Seventy-Five Dollars (\$75.00) per year for each light so furnished.

Each arc light shall be supplied constantly when in use, with 6 6-10 amperes of current at a difference of potential of not less than (70) seventy volts measured at the terminals of the lamp, or the equivalent in watts; either direct or alternating current lights may be used at the option of the Company.

For the purpose of making tests to determine whether or not the number of amperes and volts required by the terms of this contract is being supplied to the arc lamps, and of examining apparatus and appliances, it is understood and agreed that the Company will furnish to and permit the City Electrician, or other person designated by the mayor and council, access at all proper times to all lamps, lamp posts, poles, wires, conduits, fixtures, apparatus or machinery on the street, or to any of the stations of the Company supplying lights under this contract, and the City Electrician, or other person so designated shall have the privilege at any and all times when the arc lamps are burning, of testing any of the city electric light circuits at such point or points as may be selected by him, by the use of such standard measuring instruments as he may desire to use, and he shall maintain such instruments in the circuit

for so long a time as he may deem it advisable, and any arc
113 lamp not found up to the standard of light, as provided herein, will be considered as not burning, and shall be deducted as outage as herein specified.

All arc lights shall be lighted by the Company every night during the said term at twilight, and kept continually lighted until daylight, and they shall be kept in order by and at the expense of the Company.

All arc lights shall be located at the places designated by the mayor and council. After an arc light has been located and erected in place, it shall be moved upon request of the city, but the actual necessary cost of such removal to another location shall be borne by the city.

The Company further agrees that in placing the said arc lights in position, in erecting poles and wires, or in any other use of the streets, alleys or public grounds of the city in connection therewith,

it will indemnify and save the city harmless against any and all suits brought against it for injuries or damages sustained by any person or persons by reason of the placing or maintaining of said electric poles and wires or conduits, in connection with any of said lights, which shall be due to the negligence of the Company, or to any failure on the part of the Company to comply with the ordinances of the city.

For every failure or neglect to light any of said arc lights, or when any such arc light when lighted shall consume less electrical energy than the quantity heretofore mentioned, the Company shall rebate to the city the proportion of the rates above mentioned for the time such light or lights shall fail to burn or to consume less than the amount of electrical energy required herein, which amount may be deducted from the sum owing to said Company under this contract, and all outage shall be determined as heretofore stated.

The Company agrees to furnish electric lights for the City Hall, and any other public buildings belonging to the city, at the rate of six cents (6c.) per one thousand watts for all current consumed.

All sums due and payable to the Company by virtue of this agreement shall be paid monthly by the city to the company at the expiration of each month.

114 The Company shall give a bond of Ten Thousand Dollars, (\$10,000), to be approved by the City Council, conditioned that the Company will faithfully carry out the provisions of this contract.

It is further agreed that during the term of this contract the Company will pay to the city a sum equal to three per cent (3%) of its gross receipts from lighting and power business done within the city, not including any revenue derived from the said city, said payments to be made annually on or before the tenth day of January in each year during said term.

It is further stipulated and agreed by the parties hereto, that this contract shall not at any time in the future be construed as a waiver on the part of the city of any right that it may now have against the Company, in any litigation now pending, or which may hereafter be commenced on the part of the city and against the Company wherein the city shall undertake to require the Company to remove its poles, wires and conduits from the streets, alleys and public grounds of the city, and cease to use the same for such purpose for the transmission of electric current for heat, power or light, or any of them. And it is further understood and agreed by and between the parties hereto, that at no time in the future and under no circumstances, shall this contract or the royalty paid thereunder or agreed to be paid, constitute or be urged or taken into consideration as an estoppel against the city, if the city at any time in the future shall see fit to declare any license or permit now held by the Company to use its streets, alleys and public grounds, at an end, and require said Company to remove its poles, wires and conduits therefrom, or to cease using said poles, wires and conduits, for the transmission of electric current for heat, power or light, or any of them.

115 In witness whereof, the said parties have caused these presents to be duly executed and attested, and their respective seals to be attached the date first above written.

THE CITY OF OMAHA,
By JAMES C. DAHLMAN, *Mayor*.

Attest:

DAN B. BUTLER,
City Clerk.

OMAHA ELECTRIC LIGHT &
POWER COMPANY,
By F. A. NASH, *President*.

Attest:

S. E. SCHWEITZER, *Secretary*.

Approved January 4, 1910.

DAN B. BUTLER, *City Clerk*.
LOUIS BURMEISTER,
President City Council.

Approved January 7, 1910.

JAMES C. DAHLMAN, *Mayor*.

EXHIBIT "L."

This Indenture, dated the first day of July in the year nineteen hundred and three, made by and between the Omaha Electric Light and Power Company (hereinafter called simply "the Electric Company"), a corporation duly organized and existing under the laws of the State of Maine, with its principal office in the city of Portland in that State, party of the first part, and the Old Colony Trust Company (hereinafter called "the Trustee"), a corporation duly organized under the laws of the Commonwealth of Massachusetts, with its principal office in the city of Boston therein,

Witnesseth that:

Whereas, the Electric Company, in partial fulfillment of the purposes of its incorporation, acquires concurrently with the delivery hereof title to the electric light and power plant lately possessed and operated by the New Omaha-Thomson-Houston Electric Light Company in Omaha and South Omaha, Neb., including a system of electrical conduits, lines and conductors, supplying customers in
116 those cities, and also substantially all the shares of the capital stock of the Citizens Gas and Electric Company of Council Bluffs, which is engaged in furnishing gas and electricity to the municipality and inhabitants of Council Bluffs, Iowa;

And Whereas, in the acquisition of said properties the Electric Company has incurred obligations requiring the issue at once of one million three hundred and fifty thousand dollars (\$1,350,000) bonds, and may need in the future, for the purpose of acquiring

additional electrical and illuminating properties in or near Omaha or Council Bluffs aforesaid and of improving and extending the plants and equipments now and from time to time owned by the Electric Company, to issue additional bonds;

And Whereas, it is provided in the certificate of organization of the Electric Company that in furtherance of its purposes the corporation "may make, issue and negotiate its own bonds, debentures and other certificates of indebtedness to any amount, and on such terms as to security or otherwise as the Directors shall approve or authorize," and that "all or any of the property or assets of the corporation may be mortgaged or pledged to secure payment of such bonds or debentures and the interest thereon";

And Whereas, the By-Laws of the Electric Company, duly adopted at the time of its organization and ever since in force, confer upon the Directors, without qualification, the power "to hypothecate, pledge and mortgage, as security for its bonds, notes or other obligations, any or all property at any time belonging to the corporation";

And Whereas, at a meeting of the Directors of the Electric Company duly held on the twenty-third day of July, 1903, a resolution, whereof the following is a copy, was unanimously passed, viz:

Resolved, That in order to enable this Company to execute and fulfill the objects for which it has been created and organized, and especially for the purpose of satisfying obligations incurred or to be incurred in the acquisition of its properties, rights and franchises and of providing means with which to improve and extend the same and acquire additional property, equipments, rights and franchises,

117 this board hereby authorizes and directs that negotiable bonds of the Company be made and issued to an amount not exceeding three million dollars (\$3,000,000) par value in the aggregate, payable on the first day of July, 1933, with interest at the rate of five per cent. (5%) per annum, payable semi-annually on the first days of January and July, both principal and interest to be payable in United States gold coin of the present standard of weight and fineness; that such bonds be made to bear date July 1, 1903, (though in fact executed at a later date), and that each of them be made redeemable at the option of the promisor at any time after the expiration of five years from the date thereof and before maturity at a premium of five per cent. above par value together with accrued interest; that to secure payment of such bonds and interest thereon the President and Secretary of the Company, in its name and behalf and under its corporate seal, make, execute and deliver to the Old Colony Trust Company, of the city of Boston, Mass., as Trustee, a mortgage or trust deed conveying to the Trustee and its successors all of the property, rights and franchises of the Company (or such portions thereof as said officers shall deem best), and creating a first lien thereon, such instrument to be dated at the beginning the first day of July, 1903, though in fact executed at a later date; that all bonds issued under such mortgage or trust deed shall be equally secured thereby regardless of the time or times when the bonds shall be issued or negotiated; that of the

bonds hereby authorized one million three hundred and fifty thousand dollars (\$1,350,000) par value shall be certified and issued forthwith on the written order of the Company's Treasurer, and the remaining one million six hundred and fifty thousand dollars (\$1,650,000) par value shall be reserved in the treasury for issue from time to time in the future agreeably to such provisions as shall be contained with respect thereto in said mortgage or trust deed; that pending the preparation of engraved bonds for issue thereunder, said \$1,350,000 bonds immediately to be issued consist of printed temporary bonds, one for the principal sum of \$14,000, four for \$50,000 each, two for \$150,000 each, one for \$200,000, one for \$211,000, and one for \$425,000, which temporary bonds shall be exchangeable for an equal amount at par of engraved coupon bonds entitled to the same security, but to be for the principal sum of one thousand dollars (\$1,000) each, and have interest coupons attached and to contain a provision for registration; that the draft mortgage and indenture this day submitted to and considered by the Directors the same being drawn for execution and delivery by this Company to said Old Colony Trust Company for the purpose of securing payment of all such bonds, both temporary and

118 engraved, and interest thereon, be, and the same is, hereby approved; that the President and Secretary of the Company are hereby authorized and directed to execute, in its name and behalf, and deliver to said Trustee for certification, the temporary bonds herein provided for, and likewise to execute said mortgage or trust deed, the same to be thereupon acknowledged by said officers, or either of them alone, and then delivered to said Old Colony Trust Company for the uses and purposes in the instrument set forth. The bonds issued under said mortgage or trust deed, at whatever time they shall be executed shall be valid and binding obligations of the Company from and after the certification thereof respectively by the Trustee, regardless of whether the persons signing them as President and Secretary, respectively, be officers of the Company at the time of such certification or not.

And whereas each of the engraved bonds to be certified and issued hereunder, the same to consist of a series of three thousand (3,000) bonds for one thousand dollars each, numbered consecutively from 1 to 3,000 inclusive, will be in substantially the form following, subject only to necessary variations as to distinguishing numbers, to-wit:

UNITED STATES OF AMERICA,
State of Maine:

No. —.

\$1,000.

*First Mortgage 5% Thirty-year Sinking Fund Gold Bond of the
 Omaha Electric Light and Power Company.*

Issue Limited to \$3,000,000.

For value received, the Omaha Electric Light and Power Company, a corporation duly organized and existing under the laws of

the State of Maine, promises to pay the Old Colony Trust Company, of Boston, Mass., Trustee, or bearer, or, if this Bond should be registered, then the registered holder, the sum of One Thousand Dollars, in gold coin of the United States of America, of the present standard of weight and fineness, on the first day of July, 1933, or earlier, at the option of the promisor, on payment of a specified premium, as hereinafter provided), and also to pay interest on said sum, in like gold coin, at the rate of five per cent (5%) per annum, semi-annually, on the first days of January and July in each year, to the bearer of the respective coupons hereto attached, upon presentation and surrender thereof as they severally fall due, or, in case of registration, according to the provisions indorsed hereon; both principal and interest to be paid at the office of said Old Colony Trust Company, in the city of Boston, Mass.

This Bond is one of a series of bonds of like date, tenor and effect, numbered from 1 to 3,000 inclusive, amounting in the aggregate to three million dollars, all issued or to be issued under and equally secured by a mortgage or trust deed of even date herewith, made by said Electric Light and Power Company, conveying its properties and franchises to said Old Colony Trust Company as Trustee, to which mortgage reference is hereby made for a description of the mortgaged premises, and of the rights and remedies of the holders of said Bonds in regard to the mortgage security.

This Bond may be called and retired at any time after the expiration of five years from its date and before maturity, at the option of the Omaha Electric Light and Power Company, by payment, in gold coin as aforesaid, of the face of the bond and five per cent (5%) premium thereon, and accrued interest; due notice of the call having first been given as required by the provisions indorsed hereon.

It is a condition of this Bond that the holder shall not with respect thereto exercise any right of recourse to or recovery from the stockholders or officers of the Omaha Electric Light and Power Company, whether under any constitutional provision or statutory law, or upon any principle of law or equity.

This Bond shall not become obligatory for any purpose until the certificate hereon shall be signed by the Trustee under said mortgage.

In Witness Whereof, the Omaha Electric Light and Power Company has caused these presents to be signed by its President, and sealed with its corporate seal, attested by its Secretary, and has hereto attached interest coupons with the name of its Treasurer engraved thereon, the first day of July, A. D. 1903.

OMAHA ELECTRIC LIGHT AND
POWER COMPANY,

By ———, *President.*

Attest:

———, *Secretary.*

\$25.00

(Coupon.)

\$25.00.

The Omaha Electric Light and Power Company will pay bearer Twenty-Five Dollars, in gold coin of the United States of America,

at the Old Colony Trust Company, Boston, Mass., ——— 1st,
 120 19—, being six months' interest then due on Bond No. —, dated July 1, 1903, unless previously redeemed as provided therein.

W. H. WHITNEY, *Treasurer*.

(NOTE.—The words "unless previously redeemed as provided therein" do not appear on the first ten coupons.)

Registration.

This Bond may be registered in the holder's name on the books of the Old Colony Trust Company or its successor, as Trustee under the within-mentioned trust deed, and such registry shall be noted on the Bond, after which no transfer shall be effectual unless it is made on the said books and noted on the Bond; but the same may be discharged from registry by being so transferred to bearer, after which it shall be transferable by delivery, but may be again and from time to time registered as before. The coupons shall be payable to the bearer thereof, notwithstanding the registry of the bonds, unless the coupons shall be surrendered and such surrender noted hereon, in which case the interest shall be payable to the registered holder.

Date of
registry.

Name and address of
registered owner.

Transfer
agent.

Provision for Notice of Prior Payment.

In order to call this Bond for payment before its maturity, the promisor shall give notice that the principal hereof, with the premium specified in the said bond, will be paid at the office of the Old Colony Trust Company, Boston, Mass., on a specified day, and such notice shall be given in writing and posted to the registered holder at his last address appearing upon the registry books of the Trustee thirty days before such day. Or, in case this bond shall not be registered, such notice shall be given by advertisement published once a week for four successive weeks in one or more newspapers published daily in each of the cities of Boston and New York. And thereupon, after the day so fixed for prior payment, interest hereon shall cease, unless payment hereof shall be refused after presentation pursuant to such notice.

Trustee's Certificate.

This Bond is one of an issue of \$3,000,000 of bonds described in the within mentioned mortgage or trust deed, dated July 1, 1903.

OLD COLONY TRUST COMPANY,

Trustee,

By ———, *Vice President.*

And Whereas said temporary printed bonds will be without coupons or any provision for registration, but, in other respects, of

121 such form, similar to that above set out, as the President and Secretary signing them shall determine.

Now, Therefore, this Indenture witnesseth that in consideration of the premises the Electric Company hereby grants, bargains, sells, assigns, conveys, mortgages and warrants unto the Trustee the following property, to-wit:

1. All and singular the conduits, poles, lines, wires, conductors, electrical and other machinery, engines, boilers, plant and equipment now owned by the Electric Company, together with all its property, rights, privileges and franchises of every kind and nature, and wherever situated, excepting, however, the real estate in South Omaha, described in Article 16 hereof.

The foregoing general description of property conveyed embraces a constructed electric light and power central station plant, all situated in the city of Omaha in the County of Douglas and State of Nebraska, and a sub-station in the city of South Omaha, in said county, and a distribution system of wires and conductors, supplying electric light and power in said cities and suburbs. The real estate now belonging to the Electric Company and hereby conveyed consists of the following, viz:

A. Two certain lots of land with the buildings thereon situated in said City of Omaha and bounded and described as follows, viz: The first lot begins at a point eighty (80) feet south and three hundred and fifty-five and thirteen one-hundredths (355.13) feet east of the southeast corner of Fractional Block one hundred and eighty-one (181), in the city of Omaha, and runs thence south three hundred and five (305) feet; thence east sixtysix (66) feet; thence north three hundred and five (305) feet; thence west sixty-six (66) feet to the place of beginning. The second lot begins at a point eighty (80) feet south and four hundred and twenty-one and thirteen one-hundredths (421.13) feet east of the southeast corner of Fractional Block one hundred and eighty-one (181) in the city of Omaha, and runs thence south three hundred and five (305) feet; thence east sixty-six (66) feet; thence north three hundred and five (305) feet; and thence west sixty-six (66) feet to the place of beginning.

B. A certain lot of land with the buildings thereon situated in said city of South Omaha, and bounded and described as follows, viz:

The east forty (40) feet of lot seven (7) in block eighty-eight (88) in the city of South Omaha and State of Nebraska.

122 This conveyance is made on the express condition that said grantee herein reserve two feet of ground from the west side of said forty (40) feet to be used for a private alley in connection with ten (10) feet of ground from the east side of the west one hundred and ten (110) feet of said lot seven (7) furnished by Frank J. Lewis, which said two and ten feet respectively are to be used together and maintained permanently for the common use of said Frank J. Lewis and the grantee herein, their respective heirs, successors and assigns. (See deed of said Lewis to the New Omaha-Thomson-Houston Electric Light Company, dated Nov. 22, 1899,

recorded in the office of the Register of Deeds, Douglas County, Book 232 of Deeds, Page 61.)

II. All property, rights, privileges and franchises of every kind and nature which the Electric Company shall hereafter acquire, or which shall come into its possession as owner, including bonds and shares of the capital stock of other corporations, the Company hereby covenanting with the Trustee and its successors that from time to time, as the Electric Company acquires and comes into the possession or enjoyment of such additional property (real, personal or mixed, and whether for lighting, power, or other purposes), rights, privileges and franchises, the same shall become and remain subject to the lien of this mortgage as fully and completely as though owned and possessed by the Company at the date hereof; and that it will from time to time, on request, make and deliver to the Trustee (the same to be suitably acknowledged for record) such deeds or other instruments in writing as may be appropriate to vest the title thereto, free from all liens and incumbrances, in the Trustee, to be held upon and subject to the trusts and agreements herein contained.

III. All contracts and choses in action now or hereafter belonging to the Electric Company, including fourteen hundred and ninety-five (1,495) shares, aggregating at par value \$149,500, of the capital stock of the Citizens Gas and Electric Company of Council Bluffs (a New Jersey corporation operating in Council Bluffs, Iowa, with an issued capital stock of \$150,000), and all the income and revenues accruing and to accrue on or from the mortgaged or pledged property.

To Have and to Hold the same (hereinafter called "the mortgaged premises"), with all the rights, privileges, franchises, revenues and income unto the same appertaining, to said Old Colony Trust Company, its successors and assigns forever, to its and their own use forever, but in trust, nevertheless, for the equal and proportionate benefit and security of the holders from time to time of said bonds bearing even date herewith, issued and to be issued under this Indenture, without preference, priority or distinction, as to lien or otherwise, of any one bond over any other bond, by reason of priority in the issue or negotiation thereof, or for any reason whatever.

The certificates representing said fourteen hundred and ninety-five shares of stock, as also all certificates representing any shares of stock that may hereafter be embraced in the mortgaged premises, shall be suitably indorsed for transfer to the Trustee or its nominee. They need not be actually transferred on the books of the Company by which the shares are issued until there shall be some default hereunder on the part of the Electric Company known to the Trustee, or until the Trustee shall elect to have such transfer made, and may be held by the Trustee in the names of its nominees, indorsed in blank by such nominees.

And it is hereby declared and agreed that all the bonds secured or to be secured hereby shall be certified, delivered and issued, and

that the mortgaged premises shall be held subject to the following further provisions and agreements, to-wit:

ARTICLE 1. So long as the Electric Company shall observe and perform all and each of the promises, terms and provisions in the bonds and coupons and in this mortgage contained, it may (a) retain the possession of, and use and enjoy, the mortgaged premises without let or hindrance from the Trustee, except that the possession of any and all bonds and shares of capital stock issued by other corporations and owned by the Electric Company shall be in the Trustee, which shall hold the same subject to the provisions of Article 17 hereof; and (b) in the ordinary course of business (except as provided in said Article 17) use the supplies and deal with the contracts and choses embraced in the mortgaged premises, and pull down, alter and repair buildings and structures.

124 ARTICLE 2. But in case the Electric Company shall

(a) Make any default in the payment of either the interest on or principal of any of the bonds secured by this mortgage, whether demand for such payment be made at the office of the Trustee on the day when such interest or principal becomes due, or at any time thereafter, and the default shall continue for sixty days from and after such date; or

(b) In case the Electric Company shall fail to pay any taxes, assessments or public charges, of any nature whatsoever, which may be lawfully levied upon the mortgaged property, privileges or franchises, by any public authority whatsoever, and such failure shall continue for a period of sixty days after the same become due or payable; or if the legality of any such taxes, assessments or public charges is disputed by the Electric Company, then, in that event, in case such failure shall continue for a period of sixty days after they shall have been finally adjudged to be legally due or payable; or

(c) In case the Electric Company shall fail, upon demand made by the Trustee, to execute and deliver to the Trustee such further deeds and conveyances as the Trustee may require, for the better securing to the Trustee of the title to any property, rights, privileges, or franchises now owned or which may be hereafter acquired by the Electric Company, and which are hereby mortgaged or agreed to be, and such failure shall continue for a period of sixty days after such demand; or

(d) In case the Electric Company shall in any manner fail to do, observe or perform any of the things, provisions or promises required by the terms of bonds and coupons hereby secured, or by this Indenture, to be by it done, observed or performed, and such failure shall continue for a period of sixty days after notice thereof given to it in writing by the Trustee; or

(e) In case the Electric Company shall do or omit to do any act, or thing whereby it shall lose or forfeit any licenses, rights, privileges or franchises necessary to enable the Company to operate and maintain any substantial portion of its electrical plant or lines or other property,

Then and in any such cases the Trustee may, in its discretion, and, upon being requested in writing by the holders of more than one fifth of the bonds at the time outstanding secured by this mortgage, and being furnished with sufficient funds for the purpose or indemnified to its reasonable satisfaction, it shall be its duty to take all needful steps for the protection and enforcement of the rights hereby secured to it as Trustee for the holders of said bonds and coupons, to this end exercising the powers of entry or sale herein conferred, or both, or taking proper judicial proceedings by action, suit or otherwise, as the Trustee, being advised by counsel, shall deem best in the interest of the bondholders. The Trustee's decision as to which of the remedies herein provided, or of those provided by the laws of the States wherein the mortgaged premises may be situated, it shall adopt shall be conclusive.

ARTICLE 3. In case of any default or failure as aforesaid occurring and continuing as hereinbefore provided, the right of the Electric Company to possession of the mortgaged premises shall ipso facto cease and determine, and the right of possession shall vest in the Trustee, without any action on its part; and the Trustee, having become so entitled to possession, may, at any time during the continuance of such default or failure, take possession of the mortgaged premises including all the Electric Company's books of record or account, deeds, leases, contracts, correspondence and writings of whatsoever nature, and remove and put out the Electric Company's officers and agents, and each and every occupant; and may have, receive, sue for, collect and receipt for, in the Trustee's own name or in the name of the Electric Company, or of any assignee thereof, all and singular the income of the Electric Company, from whatever source derived, or accruing in connection with the mortgaged premises, including any and all debts, claims and demands of whatever nature. The Trustee may surrender or cause to be surrendered the possession of the mortgaged premises, if at the time of such surrender it has in hand sufficient funds belonging to the trust to pay all said costs, expenses and charges, and all overdue and unpaid interest as well, so that all defaults hereunder known to the Trustee shall, on such surrender of possession, appear to it to be substantially corrected. Any such restoration of possession shall be without prejudice to the rights of the Trustee or the bondholders as regards any subsequent default by the Electric Company.

The Trustee in possession may operate, maintain and carry on the property and business of the Electric Company, carry out and perform its contracts and make new contracts touching the management and operation thereof, as fully to all intents and purposes as the Electric Company might do or could have done, had it remained in possession, the Trustee doing so in behalf of and at the expense of the trust estate. It may also, so long as it remains in possession, make and incur such expenditures as it shall deem best for the purpose of maintaining and preserving the property, making all such repairs, renewals, replacements, alterations, additions and

improvements as the Trustee shall deem judicious, all the expenses so incurred to be a charge upon the trust estate.

ARTICLE 4. The Trustee, in case it shall so prefer, is hereby authorized and empowered, instead of proceeding to take possession of the mortgaged premises by itself or its agents, as hereinbefore provided, to enforce the right of entry and possession, or any of the provisions of this instrument, by invoking the aid of any court of competent jurisdiction, either of the United States or of any pertinent State, it being understood and declared that the enforcement of such right, or of any of the provisions hereof, through the aid of a court, whether of law or equity, shall be regarded as a cumulative remedy, and one which shall not in any manner deprive the Trustee or bondholders of any right or remedy that may be consistent with the provisions of this mortgage. And the Trustee shall be entitled, as a matter of substantial right, upon filing a bill in equity, or upon the beginning of any proper action, whether for a foreclosure of the mortgage or for the enforcement merely of the right of possession, to the appointment of a receiver of the mortgaged premises, with such powers as the court, whether State or Federal, making the appointment shall confer; and in such case the Trustee shall be entitled, at its election, to have the appointment

made without notice to the respondent, the Electric Company
127 hereby expressly waiving notice in such case of any application for or appointment of a receiver. Such right to the appointment of a receiver, in case of a default made and continued as aforesaid, is not to be construed as in the nature of a penalty, but as a contract right conferred upon the Trustee and its successors, to enable it and them fully to administer and execute the trust hereby created, and as a portion of the security in consideration of which the indebtedness evidenced by the bonds hereby secured, or intended so to be, is created.

ARTICLE 5. The Trustee, after default or failure on the part of the Electric Company as aforesaid occurring and continuing as hereinbefore provided, is hereby expressly authorized and empowered, either with or without previously taking possession of the mortgaged premises, or any part thereof, and regardless of the question whether the principal of the bonds be yet due or not, to sell (by one sale or successively through several sales) the mortgaged premises, or any portion thereof, at public auction, to the highest bidder, at such time or times and place or places as it may designate, having in each instance first published notice of the time, place and terms of sale (a) in such manner and for such length of time as the Trustee shall be advised by its counsel to be required by any law or laws applicable to the case, and (b) by publication twice a week for at least three successive weeks in some daily newspaper of general circulation published in said city of Omaha. If the Trustee shall deem that compliance with the foregoing clauses (a) and (b) would not give adequate notice, it may, in its discretion, at the expense of the trust, publish notice in such other newspapers and for such periods as shall seem to it proper.

The Trustee is hereby further authorized and empowered, either

in its own name or in the name of the Electric Company, to make, execute, acknowledge and deliver to the purchaser or purchasers at any such sale good and sufficient deeds of conveyance of the property sold; and any sale made as aforesaid shall be a perpetual bar, both in law and equity, against the Electric Company and all persons claiming by, through or under it, from claiming the

128 property so sold, or any interest therein. If the property be disposed of in parcels, each purchaser shall take good title, notwithstanding that enough may have been already received to satisfy the mortgage debt. As affecting the title to any property purchased at any such sale, the statements set forth in any affidavit made by the President or Secretary of the Trustee and appended to the deed of conveyance, relating to the time and manner of giving written notice of any default or to the time and manner of giving notice of such sale, shall not be open to contradiction or dispute by any party or parties, but shall conclusively be deemed to be true. The net proceeds of the sale or sales shall be applied and disposed of as provided in Article 9.

ARTICLE 6. The foregoing powers of entry and sale are each and both of them cumulative to the ordinary right of foreclosure by entry, suit or action, and to any remedies at law or in equity for protecting or enforcing the mortgage security. The rights of sale and foreclosure may be exercised against all of the mortgaged premises at one time and in one proceeding, or against portions of it successively and in separate proceedings. The Electric Company hereby waives, in case the security shall become enforceable, any and all rights of stay, appraisal and redemption, respectively, now or hereafter provided by the statutes of Nebraska, Iowa and any other States; and covenants that it will not in any manner set up or seek to take advantage of any stay, appraisal, or redemption law. The institution of any foreclosure or other proceedings by suit or action, at equity or law, shall not be construed as a waiver of the Trustee's right of entry and possession.

The right to take proceedings for foreclosure, however, shall be, and is hereby, vested primarily in the Trustee; and no bondholder or bondholders shall take any proceedings against the Electric Company to enforce the provisions of this mortgage, unless the Trustee shall first have been requested by him or them in writing to act, and the Trustee shall have refused or neglected so to do.

ARTICLE 7. In case of any default or failure as aforesaid on the part of the Electric Company, occurring and continuing as hereinbefore provided, the Trustee, upon request in writing of the
129 holders of four-fifths of the bonds at the time outstanding, shall declare the principal of all bonds hereby secured immediately due and payable, and the same shall thereupon become so due and payable, anything in said bonds or this Indenture to the contrary notwithstanding, but no declaration of such principal to be due and payable shall be a condition precedent to an exercise of the right to sell, whether in virtue of the power hereinbefore expressly conferred upon the Trustee or pursuant to any decree of court, the Electric Company hereby expressly covenanting that,

upon a default or failure by it occurring and continuing as aforesaid, a right to sell the mortgaged premises shall ipso facto arise, to be exercised by the Trustee in the manner hereinbefore provided, or through the cumulative remedy of judicial proceedings.

In the event of any sale or sales of the mortgaged premises, or any part thereof, whether made pursuant to any power of sale herein granted or by judicial authority, the principal of all the said bonds then outstanding, if not due by declaration as herein provided, shall forthwith become due and payable, anything in this Indenture or in the bonds themselves to the contrary notwithstanding.

ARTICLE 8. In case of any sale hereunder of the mortgaged premises, whether by virtue of said power of sale or pursuant to an order or decree of court, any of the bonds hereby secured and any matured and unpaid coupons of such bonds, accompanying the same, may themselves be used in or toward the payment of the purchase money bid, in lieu of cash, at the net sums distributable thereon, ascertained under the provisions contained in Article 9 hereof. At any such sale, the Trustee, or any one or more of the bondholders, or any person or committee in its or their behalf, may bid for and purchase said property, and may make payment therefor, in whole or in part, as the case may be, by turning in bonds and matured and unpaid coupons, as aforesaid; and upon compliance with the terms of the bid, may hold, retain and dispose of the property without further accountability therefor.

No purchaser at any such sale shall be bound to ascertain the authority of the Trustee to make it, or to inquire as to any facts required by the provisions hereof as conditions precedent to the exercise of such authority; nor shall any purchaser be bound to see to the application of the purchase money.

ARTICLE 9. The proceeds of any sale or sales of the mortgaged premises, whether made in exercise of the power of sale aforesaid or pursuant to decree of court, shall be applied as follows, viz:

First. To the reimbursement of the Trustee for all costs, expenses and liabilities incurred in or about the sale or otherwise in connection with this trust, and the payment of its own compensation for services.

Second. To the payment of the principal of the bonds issued hereunder and then outstanding, and the interest thereon accrued to the date of the application or payment, and remaining unpaid; and in case the proceeds available are insufficient to pay in full the whole amount of said principal and interest, then the application shall be made ratably to the payment of the principal and interest, without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest; provided, however, that neither any coupon nor any claim for any interest on any registered bond which shall in any way have been transferred or pledged separate from the bond to which it relates, at or subsequent to the maturity of such coupon or interest claim, shall, unless accompanied by the bond itself, be entitled in any such application of proceeds to any credit or pay-

ment except after the prior payment in full of said principal and of all coupons and claims for interest not so transferred or pledged.

Third. Any residue remaining shall be paid to the Electric Company, its successors or assigns.

ARTICLE 10. No delay or omission by the Trustee in exercising the rights and powers herein granted shall be held to exhaust or impair such rights and powers, or be construed as a waiver thereof; but it is hereby mutually agreed that the holder or holders of four-fifths in amount of the bonds at the time outstanding may by an instrument in writing signed and acknowledged by them, at any time (whether before or after the institution of foreclosure proceedings) waive, or instruct the Trustee to waive, any default on the part of the Electric Company other than a default in the payment of principal: provided always that a waiver of default
131 in the payment of interest shall be construed only as postponing to a time specified the time for the payment of the overdue interest, and that no waiver of any kind shall extend to or be taken to affect any subsequent default, or impair the rights resulting therefrom.

ARTICLE 11. The Trustee may, from time to time, release by proper instrument or instruments from the lien of this deed any of the mortgaged premises, provided cash, or other property, useful in the Electric Company's business, at least equal in value to the property so released, be substituted therefor and subjected to the lien hereof, so that such release will not impair the security of the bondholders. Cash so substituted shall be deposited with the Trustee, and may be used in payment for new or additional equipments or other property, useful in its business, that have been acquired by the Electric Company, and subjected (with no prior lien thereon) to the lien of this mortgage; and such cash shall be paid to the Treasurer of the Electric Company or his order by the Trustee upon request, accompanied by a duly certified copy of a resolution of the Board of Directors of the Electric Company authorizing such application of the money, provided the Trustee be satisfied that the provisions of this Article are complied with. For the purpose of satisfying itself as to questions of value, the Trustee is authorized to accept and act upon the certificate of any disinterested person selected by it with reasonable care for the purpose of investigating the same, and, as to questions of title, upon a resolution by such Board of Directors. Until so applied, the cash deposit, or any balance thereof, shall be retained by the Trustee as a part of the mortgage security, and shall draw interest at the then rate customarily paid by the Trustee on customers' deposits; the accumulations of interest to be treated as a part of the fund. All expenses incurred in connection with any release shall be paid by the Electric Company. Property added or permanent improvements made before the execution of the release may be treated as substituted for the property released, provided the Trustee shall be notified, at or before the actual acquisition and possession of the new or additional property, that
132 the same is intended as the basis of a future release.

The Electric Company, as long as it is not in any default

under this instrument, may replace any of its equipment, machinery and tools with others, and sell such of them as shall have been replaced or worn out, as it may see fit, but so that it shall not create any mortgage or charge in priority to these presents or impair the value of this security, provided that the amount disposed of without the consent of the trustee shall not exceed in value the sum of \$2,000 in any given six months, and the lien hereof shall attach to the new or substituted property immediately upon possession thereof by the Company. The rights of replacement and sale in this paragraph reserved may be exercised without any consent of or release from the Trustee, it being understood that they are not subject to the provisions of the first paragraph of this Article.

No purchaser in good faith of property purporting to be released hereunder shall be bound to ascertain the authority of the Trustee to execute the release, or to inquire as to any facts required by the provisions hereof for the exercise of such authority; nor shall any purchaser of worn or replaced machinery, equipment or tools be under obligation to ascertain or inquire into the occurrence of the event on which any such sale is herein authorized.

ARTICLE 12. The Electric Company shall and will, at any and all times, upon a written request of the Trustee, in a form satisfactory to it, furnish it a statement in writing showing accurately its financial condition, including in such statement especially an account in full detail of the property, assets and liabilities of the Electric Company and an exhibit of the earnings and operating expenses, given month by month, for and during a period of at least a year prior to the time of making such request. It will also, at any and all times until all the bonds issued hereunder shall have been fully paid, permit the Trustee, by its duly authorized agents, fully to inspect all the books of account of the Electric Company, together with all its reports, memoranda or other papers, and to take such extracts therefrom as may be desired. But said Trustee shall be under no obligation to require any such statement or to make
133 such inspection save as it may desire or elect.

ARTICLE 13. The Electric Company covenants that it will pay all valid taxes, assessments and public charges, of whatsoever nature, already or which may from time to time be levied upon the mortgaged premises, or any part thereof, or upon any interest therein; that it will well and truly pay and discharge all the principal of and interest on the bonds of the issue hereby secured as the same become due and payable respectively; that it will not suffer or permit any lien of mechanics or material men or others, of any kind, or any incumbrance of any kind, upon any property or assets, now owned or hereafter acquired, which shall be a prior lien to the lien hereof; that it will not suffer or permit any default to occur under this mortgage, but will faithfully observe and perform all the conditions and requirements hereof; and that it will keep the insurable property subject to this mortgage at all times insured in such sums as shall reasonably protect the same, the policies to be payable, in case of loss, to the Trustee hereunder as its interest may appear, and that it will deliver to the Trustee all policies for such insurance,

whenever requested. In case of loss, the Trustee shall allow the insurance money received to be applied by the Electric Company toward the replacement of the property destroyed or injured, so requested in writing, and shall upon such request use said money to reimburse the Electric Company for the expense of such replacement, upon receipt of satisfactory evidence of such expense. Vouchers signed by the President and Treasurer, or Vice-president and Treasurer, of the Electric Company shall be sufficient evidence of the facts to protect the Trustee in any action taken under the provisions of this paragraph; provided, however, that the Trustee shall have the right in each case to make an investigation of the facts by an agent appointed by it, and the Electric Company shall pay all expenses connected with such investigation. But if the Electric Company should not, within four months from payment of the loss, request in writing to have the insurance money so applied, then it shall be turned into the Sinking Fund hereinafter provided for.

134 ARTICLE 14. The Electric Company agrees that it will, from time to time, make such additions to and repairs of the property, buildings, machinery, power houses, electrical conduits, lines and equipments and other plants, conduits, pipes and mains, at any time embraced in the mortgaged premises, as may be required to keep and maintain them in first-class repair and in condition for performing good and efficient service; and that it will diligently prosecute its business and do everything that lies in its power to preserve, maintain and renew the rights, privileges and franchises appertaining thereto.

The said Company hereby further covenants with the Trustee, that it (the Electric Company) is well seized and possessed in fee simple of all the mortgaged premises; that the same are free from all incumbrances, except as hereinbefore shown with regard to right of way; and that the same against the lawful claims and demands of all persons it will forever warrant and defend, except as aforesaid.

ARTICLE 15. The Electric Company covenants and agrees with the Trustee that it will from time to time, on request, make, execute, acknowledge and deliver to the Trustee all such other and further deeds and instruments in writing for the better conveying and assuring to the Trustee the premises hereinbefore mortgaged, or intended or agreed so to be, as by the Trustee, or its counsel, may reasonably be required, all of which additional instruments, as well as this Indenture, the Electric Company will cause to be seasonably and properly filed and recorded.

ARTICLE 16. The following described parcel of real estate, though now owned by the Electric Company, is omitted from this mortgage for the reason that it is mutually understood and agreed that said parcel may be sold when the Directors of said Electric Company see fit, the purchaser to take a good title without any consent or approval of the Trustee; but the Electric Company agrees to expend the proceeds of the sale in improving or adding to its property, and to subject all such improvements and additions to the lien of this mortgage. No improvements or additions made pursuant to the pro-

visions of this Article shall be allowed to be the basis for certification or issue of any of the bonds reserved to be issued under the provisions of Article 18 hereof. The parcel of real estate that may be so sold is described as follows:

Beginning at a point in the north line of lot one (1) in block eighty-two (82) of South Omaha as surveyed, platted and recorded, eighty-two (82) feet west from the northeast corner of said lot; thence running south, parallel with the east line of said lot, forty (40) feet; thence west, parallel with the north line of said lot, ninety-nine and one-tenth (99 1-10) feet to the west line of said lot; thence north thirteen degrees and thirty minutes (13° 30') west along the west line of said lot forty-one and one-tenth (41 1-10) feet to the northwest corner of said lot; thence east along the north line of said lot, forty and eight-tenths (40 8-10) feet; thence north twenty (20) feet; thence east parallel with the north line of said lot, sixty-eight (68) feet; thence south twenty (20) feet to the point of beginning, containing fifty-five hundred and thirty-eight (5538) square feet, more or less. Together with all buildings and fixtures on said property, and all tenements, hereditaments and appurtenances to the same belonging, and all the estate, right, title, claim or demand whatsoever of the Electric Company, of, in or to the same or any part thereof.

ARTICLE 17. The Trustee shall collect and receive any and all interest and dividends accruing or becoming payable on any shares of stock or bonds issued by companies other than the Electric Company itself and now or hereafter embraced in the mortgaged premises; and a copy of this deed of trust filed with the Company by which such dividends or interest may be payable, shall constitute full, irrevocable and continuing authority to pay, during the term of this deed of trust, all such interest and dividends to the Trustee. But until there shall be some default hereunder on the part of the Company, known to the Trustee, the latter shall, from time to time, on demand of the Company, pay over to it such part, and no more, of the amounts so received by the Trustee as shall remain after deducting and retaining therefrom the sums that may be necessary to pay and discharge all interest then due and payable on the bonds then outstanding hereunder, and the semi-annual interest installment next thereafter to become due and payable; and the sum so deducted and retained by the Trustee shall by it be applied in payment and discharge of such interest due, or as the same may become due and payable as above provided.

Furthermore, so long as the Company shall perform and observe each and all of the promises, terms and provisions contained in the outstanding bonds and coupons and in this Indenture that are on its part to be performed and observed, the Company shall have the right, for all purposes not inconsistent with the provisions or purposes of this instrument, and with the same force and effect as though it had not been made, to vote the shares of stock embraced in the mortgaged premises; and from time to time on request of the Electric Company the Trustee shall execute and deliver, or cause to be executed and delivered, to the Electric Company or to its nominee, suit-

able powers of attorney or proxies to enable it to exercise all such voting rights. The Trustee also, whenever requested by the Board of Directors of the Electric Company, shall assign and transfer to persons designated by said Board such of the shares of stock now or hereafter embraced in the mortgaged premises as the vote embodying such request may certify to be needed in order to qualify said persons as Directors of the Company issuing such stock, but not exceeding the number of shares required by law for such purpose.

The Electric Company hereby agrees that in case the capital stock of the said Citizens Gas and Electric Company of Council Bluffs, now \$150,000, should be increased at any time while the bondholders hereunder, or the Trustee, shall have any interest in said capital stock, the whole amount of the increase shall be added to said 1495 shares now deposited with the Trustee, and be held upon the trusts and subject to the provisions of this Indenture; but said increased or additional stock shall be treated as additional security hereunder, and no bonds certified or issued against the same.

ARTICLE 18. The Trustee shall certify and deliver forthwith, on the written order of the Electric Company's Treasurer, one million three hundred and fifty thousand dollars (\$1,350,000) par value of bonds to be secured hereby, the same to consist of the above mentioned temporary printed bonds, exchangeable for engraved bonds

(to be numbered from 1 to 1350 inclusive) of substantially 137 the form hereinbefore set out. The remaining 1650 engraved bonds, to bear numbers from 1351 to 3000 inclusive, shall be certified and delivered (the matured coupons having first been removed and surrendered to the Electric Company) to, or on the written order of, such Treasurer in amounts, and upon receipt by the Trustee of certificates and reports as hereinafter provided, to-wit:

(1) A certificate in writing signed and sworn to by a majority of the Directors of the Electric Company, stating in substance that it has acquired in addition to the real estate, electric light and power plant, electric distributing system and other property originally acquired by the Electric Company from the New Omaha-Thomson-Houston Electric Light Company (including said 1495 shares of the capital stock of the Citizens Gas and Electric Company of Council Bluffs), but excluding the following items marked (w) (x) (y) and (z), machinery, plant, equipments or other property, real or personal (the acquisitions or improvements to be described with reasonable detail), actually costing the Electric Company not less than a certain sum, specified in the certificate:

(w) All property which shall have been acquired in exchange for, or in substitution of, property released under the provisions of Article 11 hereof, and all property which shall have been acquired with insurance moneys under Article 13.

(x) All such repairs and renewals also as shall have been necessary to keep the plant and all property of the Electric Company in good order, and to offset depreciation in the physical condition thereof.

(y) Improvements and additions acquired pursuant to the provisions of Article 16 hereof.

(z) Added property, equipments or permanent improvements covered by previous certificates, if any, made under the provisions of this Article 18.

(2) A report signed by some engineer selected by the Trustee with due care and believed by it to be competent and disinterested, showing (a) that he has examined the acquisitions or improvements embraced in the Directors' certificate, and considered the same in relation to the Company's business; (b) that he has examined its plants and property and is of opinion that, as a whole, all such repairs and renewals also as have been necessary to keep the same in good order and to offset depreciation have in fact been made; (c) that, in his judgment, the acquisitions or improvements named as the basis for the certification of additional bonds are worth, for the purposes of the Company, at least a certain amount (the same to be specified in the report); (d) that he is advised by counsel that the same have been acquired by the Company free from all liens and incumbrances prior to the lien of this mortgage or trust deed.

(3) Thereupon the Trustee shall (provided there be at the time no default known to it on the part of the Electric Company hereunder) certify and deliver out of the bonds numbered from 1351 to 3000 inclusive, one \$1,000 bond for every one thousand dollars' (\$1,000) worth of such acquisitions or improvements, determined by the minimum value thereof as shown in the engineer's report, unless said minimum value should be more than the minimum cost as shown in the Directors' certificate, in which case the worth of the improvements shall be considered as being the same as said minimum cost; provided, however, that issues upon this basis of one bond for each \$1,000 of new acquisitions or improvements shall not be allowed beyond the issue of one hundred and fifty bonds, aggregating at par \$150,000, and after the certification and issue of so many as that amount under the provisions of this paragraph (3), further certifications and deliveries shall be on the basis of one bond for each twelve hundred and fifty dollars (\$1,250) of new acquisitions or improvements determined as aforesaid; and on that basis the Electric Company shall be entitled to have the bonds certified and delivered.

If the engineer's report should fail to show compliance with the foregoing condition (b) with regard to repairs and renewals, the condition shall be considered as satisfied if the Electric Company deposits with the Trustee, to be thereafter used for the purpose of making good the shortcomings in respect of the matter, a sum in cash which said engineer (or a substitute engineer, if the one making the report should die or become disabled) shall report as, in his opinion, sufficient therefor; and upon such deposit being made, the Trustee shall treat said condition as fulfilled. The money so deposited shall be paid over to the Electric Company from time to time, on request, to reimburse it for expenditures made toward correcting said shortcomings, upon receipt of satisfactory evidence as to such expenditures. The provisions hereinbefore contained with reference to vouchers and evidence in case of the appli-

cation, by the Trustee, of insurance money, shall apply also to the disbursement of the deposit above in this paragraph provided for. The deposit, or any balance thereof, shall, until being so disbursed, be retained by the Trustee as part of the mortgage security, and draw interest at the rate then customarily paid by the Trustee on customers' deposits.

In addition to the foregoing provisions relative to the certification and issue of additional bonds out of those numbered from 1,351 to 3,000 inclusive, it is hereby provided and agreed that the following described bonds of said Citizens Gas and Electric Company of Council Bluffs, and of The Council Bluffs Gas and Electric Company, respectively, or any of them, may be exchanged on the basis of dollar for dollar (par value) for any bonds to be taken for the purpose from those numbered from 1,351 to 3,000 inclusive; and from time to time as such bonds of the Citizens Gas and Electric Company of Council Bluffs and such bonds of said The Council Bluffs Gas and Electric Company, or either of them, shall be transferred and delivered to the Trustee, with all the then unmatured coupons attached, to hold as additional security under this Indenture, the Trustee shall certify and deliver in exchange therefor an equal amount at par value of said bonds numbered from 1,351 to 3,000 inclusive, first removing from those so certified and delivered all matured coupons; provided always that there shall at the time be no default existing under the mortgage or trust deed securing the bonds so transferred to the Trustee hereunder known to it.

Said bonds of the Citizens Gas and Electric Company of Council Bluffs, and of The Council Bluffs Gas and Electric Company
140 aforesaid, respectively, consist of the following, viz:

First. Bonds denominated First Mortgage 5% Gold Bonds, dated the first day of December, A. D. 1900, maturing January 1st, 1926, issued under mortgage or deed of trust (also dated Dec. 1, 1900), given by said Citizens Gas and Electric Company of Council Bluffs to the New York Security and Trust Company, as Trustee; said bonds being of an issue of \$150,000 consisting of 150 bonds for the principal sum of \$1,000 each.

Second. Bonds denominated First Mortgage Thirty Year Five Per Cent Gold Bonds, dated the first day of November, A. D. 1898, maturing November 1st, 1928, issued under mortgage or deed of trust given by The Council Bluffs Gas and Electric Company aforesaid to the New York Security and Trust Company as Trustee; said bonds being of an authorized issue of \$300,000, consisting of 300 bonds for the principal sum of \$1,000 each. But the total amount of these bonds of The Council Bluffs Gas and Electric Company outstanding at the time when any of the issue shall be delivered to the Trustee hereunder as a basis for certification of some of said bonds numbered from 1,351 to 3,000 inclusive, shall not exceed \$260,000 par value. The Trustee may rely on a certificate of the New York Security and Trust Company as to the par value of bonds of said issue outstanding.

All bonds certified and delivered by the Trustee shall be valid and entitled equally with the others issued hereunder to the benefit of

the mortgage security, regardless of any question whether the provisions of this Article have been complied with.

ARTICLE 19. The Electric Company, for the purpose of creating a Sinking Fund for the retirement of a portion of said bonds before maturity, agrees that, beginning in the year 1908, it will annually pay to the Trustee, on or before the 31st of December, to and including the year ending December 31st, 1931 a sum in cash equal to five per cent (5%) of the gross earnings of the Electric Company for the year ending with the 31st day of July next preceding the required date of payment. By gross earnings, as the expression is here used, is meant income from all sources, including interest and dividends, if any, derived by the Electric Company on any stocks and bonds that may be owned by it. The first of such annual payments (which will be a sum equal to five per cent (5%) of such gross earnings for the year ending July 31, 1908). shall be
141 due and payable on or before December 31st, 1908. All moneys so paid into the Sinking Fund (as also money, if any, turned into this fund pursuant to the provisions of Article 13) shall, in so far as possible, be invested from to time by the Trustee in the first mortgage bonds of the Electric Company issued hereunder, purchased at prices not exceeding one hundred and five per cent (105%) and accrued interest, pursuant to proposals invited by the Trustee by advertising therefor in such manner and for such period as shall to it seem proper. In so far as the moneys of said Sinking Fund shall not be so invested in bonds purchased as aforesaid, the Trustee shall apply the moneys to the retirement of so many of such bonds at one hundred and five per cent and accrued interest as the moneys available for the purpose will suffice. The serial numbers of the bonds so to be retired shall be ascertained by the Trustee by drawing lots in some impartial manner; and all calls shall be made through the Trustee, which is hereby made the agent of the Electric Company for the purpose. Notice of the numbers of the bonds so drawn shall be given in the manner provided in the provisions indorsed thereon. The bonds purchased or drawn for the Sinking Fund as hereinbefore provided shall not be cancelled, but shall be held by said Trustee, stamped "Not Negotiable; Property of the Sinking Fund," and interest shall continue to accrue thereon notwithstanding the fact of their retirement, but all such accruing interest shall be collected by the Trustee and invested or applied as other Sinking Fund moneys are invested. The bonds so drawn shall no longer be deemed to be outstanding (except for the purpose of drawing interest for the Sinking Fund) and shall not be entitled to share in the proceeds of any sale of the mortgaged premises. All costs, charges and expenses incurred by the Trustee with reference to the Sinking Fund and investment thereof shall be paid by the Electric Company; but in case such payment be not made on demand, the sum may be in the first instance paid by said Trustee out of the income of the Sinking Fund.

The obligation of the Electric Company to make said annual payment of five per cent of its gross receipts is absolute, and shall be

142 performed without regard to the amount of bonds, if any, which it shall from time to time retire and cancel as provided in the following article.

ARTICLE 20. Should the Electric Company at any time or times, with funds or moneys other than those contributed to the Sinking Fund as aforesaid, exercise as to any or all of said bonds the option reserved to it in the bonds themselves to redeem the same at any time after the expiration of five years and before maturity, by paying a premium of five per cent (5%) on each bond called and accrued interest, all bonds so redeemed outside of the Sinking Fund shall, together with the coupons thereto belonging, be cancelled and none of them reissued. The serial numbers of the bonds to be so retired and cancelled shall be determined by the Trustee by lot, in the same manner as is hereinbefore provided with respect to bonds to be drawn for the Sinking Fund; and all the provisions of Article 19 other than those requiring the called bonds to be stamped "Not Negotiable, Property of Sinking Fund," shall, as far as applicable, apply to the calling, advertising for, presentation and retirement of bonds to be retired under the provisions of this Article 20. The Trustee, before drawing bonds for redemption and cancellation hereunder, or before publishing the notice of a drawing, may require from the Electric Company such deposit in cash, or such security, as may be satisfactory to it, requisite to pay, or secure the payment of, at 105% and accrued interest, all the bonds so to be called, and advertised for redemption and cancellation. It is expressly understood and agreed that if, after any bond has been called and advertised for payment, whether the same shall have been drawn for the Sinking Fund, or shall have been drawn for retirement and cancellation, the same shall not be presented to the Trustee for payment on or before the date fixed therefor in the published notice, a deposit made by the Electric Company with the Trustee to the credit of such bond, designated by the number thereof, consisting of cash equal to the principal sum of the bond and five per cent (5%) premium thereon, together with the interest accrued on the bond up to the date fixed for redemption as aforesaid and remaining unpaid, shall constitute full payment of the bond and coupons belonging thereto as between the Electric Company and the holder thereof. Said deposit in the hands of the Trustee shall draw no interest. Thereupon and thereafter such bond and the coupons thereto belonging shall be excluded from participation in the lien and security afforded by these presents, and the holder shall look for the payment of the bond and accrued interest only to the sums so deposited in the hands of the Trustee, and in no event to the Electric Company; but said sums so deposited shall be held by the Trustee to the credit of and for the payment of said bond, and shall be paid by the Trustee to the holder thereof upon the presentation and delivery to it of such bond, together with all the outstanding coupons thereto belonging. At any time upon the presentation to the Trustee for cancellation of all said authorized issue of bonds and coupons which at the time shall have been issued and outstanding (exclusive of those embraced in the Sinking Fund), or upon

the presentation of a portion thereof cancelled (all of said bonds having been duly called for payment) and the deposit by the Electric Company with the Trustee of cash sufficient to pay at the rate aforesaid all of the called bonds, and interest thereon, that are not presented to the Trustee in accordance with the call therefor, the Trustee shall cancel and discharge this Indenture as fully and to the same effect as if the total issue of said bonds and coupons had been duly paid by the Electric Company at the maturity thereof.

ARTICLE 21. The Trustee shall be entitled to be reimbursed for all proper outlays of whatever sort or nature in or about this trust, including counsel fees, and to receive a reasonable compensation for its own services; and all such outlays and compensation shall constitute a first lien on the mortgaged premises. In the execution of its trust, the Trustee shall be held only to the exercise of reasonable diligence and good faith and an honest intention to protect the rights of the respective parties in interest; it shall be entitled, at the expense of the trust, to advice of counsel in any or every matter or question arising hereunder, and action taken in accordance with the advice of counsel selected or approved by it shall conclusively be presumed as proper action; and generally where it acts by agents

144 it shall not be responsible for their negligence or wrongdoing, but it shall exercise reasonable care in selecting, retaining and discharging them. The Trustee shall not, prior to notice of some default, nor after such notice unless requested in writing by some of the bondholders and indemnified to its reasonable satisfaction against all expenses to be incurred, be under any obligation to effect or renew any policies of insurance, to require the payment or discharge of any taxes, assessments or liens that may be imposed upon the mortgaged premises, or to keep itself informed as to the performance of any of the Electric Company's covenants; but the Trustee shall have the right, in case of neglect by the Electric Company, to attend to any of these matters, and to incur in relation thereto any expenses that may seem reasonable and proper.

The Trustee, when acting in any matter as to which provision is herein made for a certificate of directors, a report of an engineer, or a certificate of any agent or disinterested person, whether it be the certification and delivery of additional bonds, the release of property from the lien of this deed, the exchange of property, the disbursement of insurance or other moneys, or any other matter, shall not incur any loss or liability if it acts in good faith on the statements made in the pertinent certificates and reports; it being hereby agreed by all parties in interest that the Trustee shall not be under any duty to investigate the truth of the facts set forth in any such certificate or report. All expenses incurred in connection with such certificates and reports, including bills incurred by any engineer or agent for legal or other services by way of assistance, shall be paid by the Electric Company on demand.

The Trustee shall not be bound to recognize any person or party as a holder of any of said bonds, nor to take any action at his request, unless his bond or bonds are submitted to the Trustee for inspection, or his ownership thereof is otherwise shown to its satisfac-

tion; nor shall it have any responsibility as to the validity of this mortgage or trust deed, the execution, recording, or renewal hereof, or the amount of adequacy, as security, of the property hereby conveyed.

The recitals herein contained are made by the Electric Company solely.

145 **ARTICLE 22.** The Trustee may, and at the written request of a majority in interest of the holders of the bonds at the time outstanding hereunder shall, resign this trust by a writing delivered to the Electric Company for the purpose, such resignation to take effect at a time to be specified therein, not less than fifteen nor more than thirty days subsequent to the delivery thereof. In case of a vacancy arising, or to arise, from such resignation, or in case of the removal of the Trustee, or its incapacity to act, a successor may be appointed by a writing signed by the Electric Company and a majority in interest of the bondholders concerned; provided, however, that this provision shall not prevent a court of competent jurisdiction from appointing a successor on petition of any party in interest if the petition be filed before an appointment is made by the Electric Company and its bondholders as aforesaid and accepted. Upon the appointment of any successor Trustee, the legal title to all the mortgaged premises shall immediately, and without any transfer, vest in the successor; and the outgoing Trustee shall deliver to its successor all stocks, bonds and other property then in its possession and forming part of the mortgaged premises (provided all its just charges for services and expenses shall first be paid), and shall also, at the request of any person interested, but at the expense of the trust, execute and deliver to the new trustee, notwithstanding the above provision as to devolution of title, such assignments and other instruments in writing as may be appropriate to vest or confirm in it title to all the mortgaged premises.

No bond shall be required of the Trustee unless ordered by a court and for cause shown.

ARTICLE 23. If the Electric Company, its successor, successors or assigns, shall pay the bonds hereby secured and interest thereon when the same respectively shall become payable, and shall well and truly perform and observe all and each of the several promises, conditions and provisions in said bonds and this trust deed contained that are on its part to be performed and observed, then and thenceforth all the right, title and interest of the Trustee in or to the mortgaged premises shall be at an end, the Electric Company

146 shall be entitled to a return of all of the property then subject to this mortgage or trust deed, and satisfaction of the instrument shall at once be duly entered by the Trustee upon the public record or records hereof.

In witness whereof, the Omaha Electric Light and Power Company has caused these presents to be signed in its behalf by Ernest L. Carr, its President, and its corporate seal to be hereto affixed and attested by Henry F. Knight, its Secretary; and the said Old Colony Trust Company, in token of its acceptance of this deed

and of the trusts contained herein, has caused these presents to be signed by James A. Parker, its Vice-President, and sealed with its corporate seal, attested by E. A. Phippen, its Secretary. Executed in duplicate.

OMAHA ELECTRIC LIGHT AND
POWER COMPANY.

ERNEST L. CARR, *President*.

Attest:

[SEAL.]

HENRY F. KNIGHT, *Secretary*.

OLD COLONY TRUST COMPANY.

JAMES A. PARKER, *Vice-President*.

Attest:

[SEAL.]

E. A. PHIPPEN, *Secretary*.

Signed, sealed and acknowledged in the presence of

CHAS. HALL ADAMS.

STATE OF MASSACHUSETTS,

Suffolk County, ss:

On this twenty-fifth day of July, A. D. 1903, before me, Charles Hall Adams, Commissioner for the State of Nebraska, also a Notary Public in and for the State of Massachusetts, personally came Ernest L. Carr, President, and Henry F. Knight, Secretary, of the Omaha Electric Light and Power Company, to me personally known to be the identical persons described in and whose names are affixed to the foregoing instrument as President and Secretary of the
147 Omaha Electric Light and Power Company, and severally acknowledged the same to be their voluntary act and deed and the voluntary act and deed of said corporation.

Witness my hand and official seals.

CHARLES HALL ADAMS,

Commissioner for the State of Nebraska, also Notary Public.

[COMMISSIONER'S SEAL.]

[NOTARIAL SEAL.]

Notarial Commission expires Jan. 14, 1904.

CHARLES HALL ADAMS, N. P.

STATE OF MASSACHUSETTS,

Suffolk County, ss:

On this twenty-fifth day of July, A. D. 1903, before me, Charles Hall Adams, Commissioner for the State of Nebraska, also a Notary Public in and for the State of Massachusetts, personally came James A. Parker, Vice-President, and E. A. Phippen, Secretary of the Old Colony Trust Company, to me personally known to be the identical persons described in and whose names are affixed to the foregoing instrument as Vice-President and Secretary of the Old Colony Trust Company, and severally acknowledged the same to be their volun-

tary act and deed, and the voluntary act and deed of said corporation.

Witness my hand and official seals.

CHARLES HALL ADAMS,

Commissioner for the State of Nebraska, also Notary Public.

[COMMISSIONER'S SEAL.]

[NOTARIAL SEAL.]

Notarial Commission expires January 14, 1904.

CHARLES HALL ADAMS, N. P.

EXHIBIT "M."

This Indenture, made this eighth day of July in the year nineteen hundred and five, by and between the Omaha Electric Light and Power Company (hereinafter called simply "the Electric Company"), a Maine corporation, and the Old Colony Trust Company (hereinafter called simply "the Trustee"), a Massachusetts corporation, same being supplementary to one (hereinafter called "the Original Indenture") now existing between the parties, dated the first day of July, 1903.

Witnesseth that:—

Whereas, by the Original Indenture the Electric Company conveyed its franchises and certain of its property to the Trustee upon the trusts therein expressed as security for the First Mortgage 5% Thirty-Year Sinking Fund Gold Bonds, dated July 1, 1903, of the Electric Company, issued or to be issued to an amount not exceeding in the aggregate \$3,000,000 par value; and the Electric Company covenanted in the Original Indenture that it would execute and deliver to the Trustee all such other and further instruments and conveyances for the better assuring to the Trustee, its successors and assigns, the property and franchises therein mortgaged or agreed to be, as by the Trustee might reasonably be required; and

Whereas, since the making of the Original Indenture the Electric Company has extended its electric lines and acquired additional property, including especially the real estate hereinafter described, all of which, as well as the property and franchises possessed at the time of the execution and delivery of the Original Indenture and thereby mortgaged, the Trustee is entitled to have and to hold upon the trusts aforesaid; and

Whereas, the Trustee has reasonably required the execution of this instrument as a conveyance in pursuance of said covenant for further assurance; and

Whereas, for the protection and security of said bonds, including as well those which may hereafter be certified and issued as those which have been issued and are now outstanding, the Electric Company (having been requested so to do by a majority in interest of the bondholders) desires to make certain agreements with the Trustee, additional to those contained in the Original Indenture, for the benefit of the holders for the time being of the bonds;

Now, then, in consideration of the premises and of one dollar to the Electric Company in hand paid by the Trustee, the receipt whereof is hereby acknowledged, and in order not only to fulfill as far as may be possible at the present time said covenant for further assurance, but to express said additional agreements, the Electric Company does hereby convey and assure unto the Trustee and agree with it as follows:

ARTICLE ONE. The Electric Company grants, bargains, sells and conveys unto the Trustee all and singular the property, real and personal, rights, titles, franchises, easements, interests, privileges and choses in action now belonging to or hereafter to be acquired by the Electric Company (excepting always, as in the Original Indenture provided, the parcel of real estate described in Article 16 thereof, but not excepting the property to be acquired through the expenditure of the proceeds that may be derived from a sale of said parcel), including in the hereby conveyed property especially everything that has been acquired by the Electric Company since the execution of that Indenture, and including (without limiting the generality of the foregoing description) the following two lots of land, each situated in the City of Omaha in Douglas County, State of Nebraska, viz:

(a) Beginning at a point eighty (80) feet south and four hundred eighty-seven and thirteen one hundredths (487.13) feet east of the southeast corner of fractional Block One Hundred and Eighty-one (181), in the City of Omaha, as surveyed and lithographed, said point being the northeast corner of a parcel of ground conveyed to New Omaha-Thomson-Houston Electric Light Co. in 1889, and running thence south three hundred five (305) feet, more or less, to the south line of Government Lot Three (3) in Section 150 Twenty-three (23), Township Fifteen (15) North, Range Thirteen (13) east; thence east one hundred fifty-nine (159) feet, more or less, to the west line of the Omaha & Southwestern Railroad Company's right of way; thence north twenty degrees and twenty minutes ($20^{\circ} 20'$) west, more or less, on the west line of said right of way, to the south line of Jones street; thence west sixty-six (66) feet more or less, to the place of beginning, containing seventy-two one hundredths (.72) acres, and known as Sub-Lot Ten (10) of Government Lot Three (3) in Section Twenty-three (23), Township Fifteen (15) North, Range Thirteen (13) east.

(b) Beginning at a point eighty (80) feet south and two hundred eighty-nine and thirteen one hundredths (289.13) feet east of the southeast corner of fractional Block One Hundred and Eighty-one (181), in the City of Omaha, and running thence south three hundred and five (305) feet, thence east sixty-six (66) feet, thence north three hundred and five (305) feet, thence west sixty-six (66) feet to the place of beginning, being a part of Government Lot Three (3) in Section Twenty-three (23), Township Fifteen (15) North, Range Thirteen (13) East of Sixth Principal Meridian.

together with all the privileges and appurtenances to said lots, either or both of them, belonging or in anywise appertaining.

To have and to hold the above conveyed premises unto said Old

Colony Trust Company, its successors and assigns, to its and their own use, but in trust nevertheless, for the uses and purposes expressed in the Original Indenture and as part of the premises thereby mortgaged.

ARTICLE TWO. The Electric Company hereby covenants with the Trustee and its successors in the trust as follows:

1. In addition to the restrictions which Article 18 of the Original Indenture places upon the issue of the 1650 reserved bonds numbered 1351 to 3000 inclusive, so many of them as have not already, agreeably to the provisions of that Article, been certified and issued, that is to say, bonds numbered 1581 to 3000 inclusive, shall be subject to the following limitation also, viz:

To entitle any given lot of bonds to certification and issue 151 (unless the same be issued in exchange for bonds of the Citizens Gas and Electric Company of Council Bluffs and bonds of the Council Bluffs Gas and Electric Company or either of them, as in the Original Indenture provided) the net earnings of the Electric Company from the mortgage security for the full period of twelve months next preceding the time of application for the bonds (including in the earnings all interest and dividends, if any, received on stocks and bonds forming part of said security) shall have equalled or exceeded seven and one-half per centum ($7\frac{1}{2}\%$) of the aggregate principal sum of all bonds then outstanding secured by the Original Indenture, plus the additional bonds applied for, not counting, however, as outstanding bonds, those held in the Sinking Fund. In determining net earnings, the Electric Company shall treat and include as operating expenses, not only taxes and insurance and other items clearly chargeable thereto, but a fair and reasonable amount as an allowance for repairs, maintenance and depreciation. Competent evidence as to the facts required by this additional restriction upon the issue of reserved bonds shall be a joint affidavit of the President or Vice-President and Treasurer of the Electric Company. The Electric Company shall report to the Trustee the net earnings of the mortgage security for the twelve months' period above mentioned, and show in such report how the earnings have been calculated, to this end specifying the gross earnings and also the respective amounts charged to the different distributive groups of operating expense, including the repair, maintenance and depreciation charges. Such report and said affidavit taken together shall be sufficient evidence to the Trustee that the facts are as therein stated, and shall (the conditions contained in the Original Indenture being also fulfilled) authorize and require the Trustee to certify and deliver to the Electric Company the additional bonds requested, if the facts as so reported and sworn to fulfill the foregoing requirements; provided, however, that although the Trustee shall not be bound, so far as earnings are concerned, to look beyond said affidavits and report, it may in its discretion cause the

152 books, accounts and vouchers of the Electric Company to be examined by some accountant selected by the Trustee for the purpose and believed by it to be competent and disinterested, and ascertain what, in his opinion, the net earnings for

the period in question have been. The Electric Company agrees to pay the expenses involved in each such examination. To such extent as the aggregate net earnings as reported by said accountant to the Trustee shall differ from the amount thereof shown in such affidavit and said report made by the Electric Company, the Trustee shall accept the accountant's opinion as conclusive and act accordingly, and it shall be fully protected in so doing.

2. The Electric Company covenants that all bonds of the issue which the Original Indenture was intended to secure are payable without deduction for any United States, State, County, Municipal or other tax or taxes which the Electric Company may be required to pay or retain therefrom under or by reason of any present or future law, and that it will pay all such taxes.

3. The Electric Company hereby waives the right accorded to it by Article 22 of the Original Indenture to participate in the selection of a new or successor Trustee in case of a vacancy existing in the trusteeship, and agrees that if the vacancy be not filled by a court of competent jurisdiction, as in said Article provided, a writing signed by a majority in interest of the bondholders concerned shall alone be sufficient to fill the vacancy, and that it (the Electric Company) will, upon request, join in the appointment made by such writing.

4. The several covenants, provisions and agreements made by the Electric Company in the Original Indenture and herein, respectively, shall apply to and bind the successors and assigns of the Electric Company, and every such successor or assign shall possess and may exercise each and every right of the Electric Company hereunder. Every such successor, and any corporation with which the Electric Company may be consolidated or merged, or to which the property and franchises of the Electric Company may be conveyed, transferred or leased, shall as a condition of such consolidation,

merger, conveyance, transfer or lease, be bound to observe
153 and perform each and every covenant, provision and agreement made by the Electric Company, whether in the Original Indenture or herein, as fully and completely as if said successor or corporation had itself executed the Original Indenture and this supplemental indenture as party of the first part; and the equipment and other property purchased or acquired by any such corporation for the purpose of complying with terms of the Original Indenture shall become subject to the lien thereof. And the Electric Company hereby covenants that it will not make any conveyance, transfer or lease of all, or substantially all, of its property and franchises as a going concern, or allow itself to be consolidated or merged with another corporation, without first requiring such other corporation, or the purchaser or lessee, as the case may be, to execute directly with the Trustee such instrument or instruments in writing as may be proper and necessary in order to give full effect to the foregoing provisions of this clause. The provisions hereof shall not, however, be construed so as to make it a condition of such consolidation, merger, conveyance, transfer or lease, that this mortgage shall cover as a first mortgage, or otherwise, the prop-

erty of any company with which the Electric Company may be consolidated or merged, or to which a lease as aforesaid may be made; nor to prevent any company with which the Electric Company may be consolidated or merged, or any party to which a lease may be made as aforesaid, from making any mortgage on property other than the property acquired from the Electric Company.

ARTICLE THREE. The recitals herein contained are made by the Electric Company solely.

In witness whereof the parties hereto have caused their respective corporate seals to be hereto affixed and these presents to be signed in their behalf by their respective officers hereunto duly authorized, the day and year first above written. Executed in duplicate.

[SEAL.]

OMAHA ELECTRIC LIGHT AND
POWER COMPANY,
By F. A. NASH, *President*.

Attest:

S. E. SCHWEITZER, *Secretary*.

[SEAL.]

OLD COLONY TRUST COMPANY,
By FRANCIS R. HART, *Vice-President*.

Attest:

E. ELMER FOYE, *Secretary*.

154 Signed, sealed and acknowledged in the presence of
G. A. SEABURY.
H. L. MARTIN.

STATE OF NEBRASKA,
Douglas County, ss:

On this 8th day of July, 1905, before me, A. C. Powers, a Notary Public in and for said County of Douglas and State of Nebraska, personally came F. A. Nash, President, and S. E. Schweitzer, Secretary, of the Omaha Electric Light and Power Company, to me personally known to be the identical persons described in and whose names are affixed to the foregoing instrument as President and Secretary of the Omaha Electric Light and Power Company, respectively, and severally acknowledged the same to be their voluntary act and deed and the voluntary act and deed of said corporation.

Witness my hand and official seal.

[SEAL.]

A. C. POWERS.

155

EXHIBIT "N."

This Indenture, made this 1st day of December in the year nineteen hundred and five, by and between the Omaha Electric Light and Power Company (hereinafter called simply "the Electric Company") a Maine corporation, and the Old Colony Trust Company (hereinafter called simply "the Trustee"), a Massachusetts corporation, same being supplementary to one (hereinafter called "the Original Indenture") now existing between the parties, dated the first day of July, 1903.

Witnesseth that:

Whereas, by the Original Indenture the Electric Company conveyed its franchises and certain of its property to the Trustee upon the trusts therein expressed as security for the First Mortgage 5% Thirty-Year Sinking Fund Gold Bonds dated July 1, 1903, of the Electric Company, issued or to be issued to an amount not exceeding in the aggregate \$3,000,000 per value; and the Electric Company covenanted in the Original Indenture that it would execute and deliver to the Trustee all such other and further instruments and conveyances for the better assuring to the Trustee, its successors and assigns, the property and franchises therein mortgaged or agreed to be, as by the Trustee might reasonably be required; and

Whereas, by a first supplemental indenture dated July 8, 1905, the Electric Company in pursuance of said covenant for further assurance conveyed to the Trustee certain real estate, in said supplemental indenture described, and other property which had been acquired by the Electric Company subsequent to the making of the Original Indenture; and

Whereas, since the making of said first supplemental indenture the Electric Company has still further extended and improved its electric lines and equipments and acquired additional property, all of which, as well as the property and franchises possessed at the time of the execution and delivery of the Original Indenture and thereby mortgaged, the Trustee is entitled to have and to hold upon the trusts aforesaid; and

156 Whereas, the Trustee has reasonably required the execution of this instrument also as a conveyance in pursuance of said covenant for further assurance;

Now, Then, in consideration of the premises and of one dollar to the Electric Company in hand paid by the Trustee, the receipt whereof is hereby acknowledged, and in order to fulfill as far as may be possible at the present time said covenant for further assurance, the Electric Company hereby grants, bargains, sells and conveys unto the Trustee all and singular the property, real and personal, rights, titles, franchises, easements, interests, privileges and choses in action now belonging to or hereinafter to be acquired by the Electric Company (excepting always, as in the Original Indenture provided, the parcel of real estate described in Article 16 thereof, but not excepting the property to be acquired through the expenditure of the proceeds that may be derived from a sale of said parcel),

including in the hereby conveyed property especially everything that has been acquired by the Electric Company since the execution of said first supplemental indenture and including (without limiting the generality of the foregoing description) the following:

New switch house, traveling crane, Cochrane vacuum oil separator, piping and wiring in central station, boiler-feed-pump, switch-board in central station, switch-board and apparatus in sub-station, meters, transformers and arc lamps, overhead lines, underground conduits and cables, volt-meters, watt-meters, storage battery.

To have and to hold the above conveyed premises unto said Old Colony Trust Company, its successors and assigns, to its and their own use, but in trust nevertheless, for the uses and purposes expressed in the Original Indenture and as a part of the premises thereby mortgaged.

The recitals herein contained are made by the Electric Company solely.

In Witness Whereof the parties hereto have caused their respective corporate seals to be hereto affixed and these presents to be signed in their behalf by their respective officers hereunto duly authorized the day and year first above written. Executed in duplicate.

OMAHA ELECTRIC LIGHT AND POWER COMPANY,

[CORPORATE SEAL.]

By F. A. NASH, *President*.

Attest:

S. E. SCHWEITZER, *Secretary*.

OLD COLONY TRUST COMPANY,

[SEAL.]

By JAMES A. PARKER, *Vice-President*.

[SEAL.]

By JAMES A. PARKER, *Vice-President*.

Attest:

E. ELMER FOYE, *Secretary*.

Signed, sealed and acknowledged in the presence of—

H. L. MARTIN.

T. N. CROSBY.

STATE OF NEBRASKA,

Douglas County, ss:

On this 1st day of December, 1905, before me, Gerald M. Drew, a Notary Public in and for said County of Douglas and State of Nebraska, personally came F. A. Nash, President, and S. E. Schweitzer, Secretary of the Omaha Electric Light and Power Company, to me personally known to be the identical persons described in and whose names are affixed to the foregoing instrument as President and Secretary of the Omaha Electric Light and Power Company, respectively, and severally acknowledged the same to be their voluntary act and deed and the voluntary act and deed of said corporation.

Witness my hand and official seal.

[SEAL.]

GERALD M. DREW,
Notary Public.

158

EXHIBIT "O."

This Indenture, made this twenty-seventh day of June, in the year 1908, by and between Omaha Electric Light and Power Company (hereinafter called simply "the Electric Company"), a Maine corporation, and the Old Colony Trust Company (hereinafter called simply "the Trustee"), a Massachusetts corporation.

Witnesseth that:—

Whereas, by indenture dated July 1st, A. D. 1903, and duly recorded, the Electric Company conveyed to the Trustee its franchises and certain of its property to be held upon certain trusts and conditions, all as is therein more particularly expressed; and

Whereas, by supplemental indenture made the 8th day of July, A. D. 1905, and duly recorded, the Electric Company conveyed to the Trustee all of the property then owned by the Electric Company (except certain real estate therein particularly referred to) and all property thereafter to be acquired by the Electric Company, upon the trusts and conditions of said original indenture dated July 1, 1903, as modified by the covenants and restrictions of said supplemental indenture, all as in said supplemental indenture is more particularly set forth; and

Whereas, by second supplemental indenture dated December first, 1905, and duly recorded, the Electric Company conveyed certain other property to the Trustee, upon the trusts therein more particularly set forth or referred to; and

Whereas, under the terms of said indentures the Electric Company is bound to preserve the lien of said original indenture and of said supplemental indentures and particularly the lien thereof as a chattel mortgage under the laws of Nebraska, and desires to take all steps necessary or proper to accomplish that end with certainty and the execution, delivery and recording of these presents is believed by the Electric Company to be reasonably necessary to accomplish said purpose;

Now then, in consideration of the premises and of one dollar to the Electric Company in hand paid by the said Trustee, the receipt whereof is hereby acknowledged, the Electric Company hereby grants, bargains, sells, assigns, conveys, mortgages, and warrants unto the Trustee all and singular the property, real and personal, rights, titles, franchises, easements, interests, privileges and choses in action now belonging to or hereafter to be acquired by the Electric Company (excepting always, as in the said Indenture dated July 1, 1903, provided, the parcel of real estate described in Article 16 thereof, but not excepting the property to be acquired through the expenditure of the proceeds that may be derived from a sale of said parcel.

To have and to hold the above conveyed premises unto said Old Colony Trust Company, its successors and assigns, to its and their own use, and in trust nevertheless, for the uses and purposes, and subject to all the terms, stipulations, covenants, and restrictions contained in said Indenture dated July 1, 1903, and in said supple-

mental Indenture, made July 8th, 1905, as fully and with the same effect as if all and singular the same were reiterated and set forth herein.

The recitals in this instrument are made by the Electric Company solely.

In witness whereof, the parties hereto have caused their respective corporate seals to be hereto affixed and these presents to be signed in their behalf by their respective officers hereunto duly authorized, the day and year first above written. Executed in duplicate.

[SEAL.] OMAHA ELECTRIC LIGHT AND POWER
COMPANY,

By F. A. NASH,
President.

Attest:
S. E. SCHWEITZER,
Secretary.

[SEAL.] OLD COLONY TRUST COMPANY,
By WALLACE B. DONHAM, *Vice-President.*

Attest:
J. G. STEARMS,
Asst. Secretary.

160 Signed, sealed and acknowledged in the presence of
H. L. MARTIN.
T. N. CROSBY.

STATE OF NEBRASKA,
Douglas County, ss:

On this 1st day of July, A. D. 1908, before me, Herbert L. Martin, a Notary Public in and for said County of Douglas and State of Nebraska, personally came F. A. Nash, President, and S. E. Schweitzer, Secretary of the Omaha Electric Light and Power Company, to me personally known to be the identical persons described in and whose names are affixed to the foregoing instrument as President and Secretary of the Omaha Electric Light and Power Company, respectively, and severally acknowledge the same to be their voluntary act and deed and the voluntary act and deed of the corporation.

Witness my hand and official seal.

[SEAL.] HERBERT L. MARTIN,
Notary Public.

161 EXHIBIT "P."

Whereas, by Indenture made July 1st, 1903, hereinafter called simply "the Original Indenture") by and between Omaha Electric Light and Power Company (hereinafter called simply "the Electric Company"), a duly organized and existing Maine corporation, and Old Colony Trust Company (hereinafter called simply "the Trustee"), a duly organized Massachusetts corporation, the Electric Com-

pany conveyed its franchises and certain of its property to the Trustee upon the trusts therein expressed as security for the First Mortgage Five Per cent. Thirty Year Sinking Fund Gold Bonds, dated July 1st, 1903, of the Electric Company issued, or to be issued, to an amount not exceeding in the aggregate \$3,000,000 par value; and the Electric Company covenanted in the Original Indenture that it would from time to time execute and deliver to the Trustee all such other and further instruments and conveyances for the better assuring to the Trustee, its successors and assigns, the property and franchises therein mortgaged, or agreed to be, as might be appropriate to vest the title thereto in the Trustee; and

Whereas, by a first supplemental indenture made July 8, 1905, the Electric Company in pursuance of said covenant for further assurance, conveyed to the Trustee certain property acquired by the Electric Company, subsequent to the making of the Original Indenture; and

Whereas, by a second supplemental indenture made December 1st, 1905, the Electric Company, in pursuance of said covenant for further assurance, conveyed to the Trustee certain other property which had been acquired by the Electric Company subsequent to the making of said first supplemental indenture; and

Whereas, by a third supplemental indenture made June 27, 1908, for the purpose of preserving the lien of the Original Indenture and said supplemental indentures as a chattel mortgage under the laws of Nebraska, the Electric Company conveyed all its property then owned, and to be thereafter acquired (excepting only certain real estate therein referred to) to the Trustee; and

162 Whereas, the Electric Company has now acquired additional property, including especially the real estate hereinafter described, all of which, as well as the property and franchises possessed at the time of the execution and delivery of the Original Indenture and said supplemental indenture, and thereby mortgaged, the Trustee is entitled to have and to hold in trust for the uses and purposes expressed in the Original Indenture agreeably to the additional agreements made in said first supplemental indenture and as part of the mortgaged premises; and

Whereas, it is appropriate that the Electric Company should execute this instrument as a conveyance in pursuance of said covenant for further assurance.

Now, Then, in consideration of the premises and of one dollar to the Electric Company in hand paid by the Trustee, the receipt whereof is hereby acknowledged, and in order to fulfil, so far as may be possible at the present time, said covenant for further assurance, the Electric Company does hereby grant, bargain, sell and convey unto the Trustee all and singular the property, real and personal, rights, titles, franchises, easements, interests, privileges and choses in action now belonging to, or hereafter to be acquired by, the Electric Company (excepting always, as in the Original Indenture provided, the parcel of real estate described in Article 16 thereof, but not excepting the property to be acquired through the expenditure of the proceeds that may be derived from the sale of said parcel)

including in the hereby conveyed property especially everything that has been acquired by the Electric Company since the execution of the Original Indenture and not heretofore specifically conveyed to the Trustee, and including (without limiting the generality of the foregoing description) the following lots of lands with the buildings thereon, viz:

(1) A certain lot of land situated in the City of Omaha in Douglas County, State of Nebraska, bounded and described as follows: Commencing at a point two hundred eighty-nine and 13-100 (289.13) feet east of the northwest corner of Government Lot Four (4), Section Twenty-three (23), Township Fifteen (15) North of Range Thirteen (13) East of Sixth principal meridian for a place of beginning; thence running east three hundred fifty-one 163 and 2-10 (351.2) feet to a point nine and 4-10 (9.4) feet west of the west line of the Omaha & Southwestern Railroad right of way; thence turning and running south, sixteen degrees six minutes ($16^{\circ} 6'$) east four and 2-10 (4.2) feet; thence turning and running north eighty-nine degrees thirty six minutes ($89^{\circ} 36'$) west three hundred fifty-two and 34-100 (352.34) feet; thence turning and running north one and 76-100 (1.76) feet to the place of beginning; containing one thousand forty-seven and 34-100 (1047.34) square feet.

(2) Two certain lots of land situated in said Omaha known as "Benson Sub-Station Property" being Lots Thirty-five (35) and Thirty-six (36) Auburn Hill addition to the City of Omaha, Nebraska, said addition being a sub-division of Block Six (6) in Cunningham's sub-division of Section Seven (7); Township Fifteen (15), Range Thirteen (13), Douglas County, Nebraska.

(3) Two certain lots of land situated in said Omaha known as "North Omaha Sub-station Property," being lots Four (4) and Five (5) in Block (1) in the replat of said Block 1 in Collier Place, an addition to the City of Omaha in Section Four (4) Township Fifteen (15) North of Range Thirteen (13) East.

(4) A certain lot of land situated in said Omaha known as "West Station Lot," being Sub Lot Seven (7) of Government Lot Three (3) in northeast quarter of the southwest quarter and the northwest quarter of the southeast quarter of Section Twenty-three (23) Township Fifteen (15) North of Range Thirteen (13) East of the Sixth principal Meridian, Douglas County, Nebraska, more particularly described as follows:

Beginning at a point eighty (80) feet south and two hundred thirty-two (232) feet east of the Southeast corner of fractional block one hundred eighty-one (181) City of Omaha, thence turning and running east fifty-seven and 13-100 (57.13) feet; thence turning and running south three hundred five (305) feet, thence turning and running west fifty-seven and 13-100 (57.13) feet; thence turning and running north three hundred five (305) feet to the point of beginning.

together with all the privileges and appurtenances thereto belonging or in any wise appertaining.

To have and to hold the above conveyed premises unto said Old

Colony Trust Company, its successors and assigns, to its and their own use, but in trust nevertheless for the uses and purposes expressed in the Original Indenture, agreeably to the additional agreements made in said first supplemental indenture, and as part of the mortgaged premises.

In Witness Whereof the Electric Company has caused its corporate seal to be hereto affixed and this instrument to be signed in its behalf by its officers hereunto duly authorized this 29th day of January, A. D. 1910.

OMAHA ELECTRIC LIGHT AND
POWER COMPANY,
By F. A. NASH, *President*.

Attest:

By S. E. SCHWEITZER, *Secretary*.

STATE OF NEBRASKA,
Douglas County, ss:

On this 29th day of January, 1910, before me, Herbert L. Martin, a Notary Public in and for said County of Douglas and State of Nebraska, personally come F. A. Nash, President, and S. E. Schweitzer, Secretary of the Omaha Electric Light and Power Company, to me personally known to be the identical persons described in and whose names are affixed to, the foregoing instrument as President and Secretary of the Omaha Electric Light and Power Company respectively, and severally acknowledged the same to be their voluntary act and deed and the voluntary act and deed of said corporation.

Witness my hand and official seal.

HERBERT L. MARTIN,
Notary Public.

[SEAL.]

165

EXHIBIT "Q."

In the Circuit Court of the United States within and for the District of Nebraska, Omaha Division.

In Equity.

Doc. "Y," Page 105.

OMAHA ELECTRIC LIGHT AND POWER COMPANY
vs.
THE CITY OF OMAHA and WALDEMAR MICHAELSON.

The Bill of Complaint of Omaha Electric Light and Power Company.

To the Judges of said Court:

The Omaha Electric Light and Power Company brings this suit in equity against the City of Omaha and Waldemar Michaelson and for its cause of action says:

(1) The plaintiff, Omaha Electric Light and Power Company is a corporation created by and organized under the laws of the State of Maine, and is a citizen of said State of Maine.

(2) The defendant, the City of Omaha, is a municipal corporation created by and organized under the general laws of the State of Nebraska, and is a citizen of said State of Nebraska, and the defendant Waldemar Michaelson is an officer of said municipal corporation, whose official title is City Electrician, and he is a resident and citizen of said State of Nebraska.

(3) This suit is a controversy between citizens of different states and the matter in dispute in said controversy exceeds, exclusive of interest and costs, the sum or value of Two Thousand (\$2,000) Dollars.

During the year 1884 the defendant, the City of Omaha, having full power therefor by and under the general laws of the State of Nebraska, did, by ordinance, grant to New Omaha-Thomson-Houston Electric Light Company and its assigns, the privilege, license and franchise, for the erection and maintenance of poles and wires, with all needful appurtenances thereto, upon and over the streets, alleys and public grounds of the said city, under such regulations as should be thereafter provided by ordinance of said city, which said granting ordinance is in words and figures as follows, to-wit:

"Ordinance No. 826.

An Ordinance Granting the Right of Way to the New Omaha-Thomson-Houston Electric Light Company and Regulating the Same and Prescribing Penalties for the Violation of This Ordinance.

Be it ordained by the City Council of the City of Omaha:

SECTION 1. That the New Omaha-Thomson-Houston Electric Light Company, or assigns, is hereby granted the right of way for erection and maintenance of poles and wires, with the appurtenances thereto, for the purpose of transacting general electric light business through, upon and over the streets, alleys and public grounds of the City of Omaha, Nebraska, under such reasonable regulations as may be provided by ordinance. Provided, that said company shall at all times, when so requested by the city authorities, permit their poles and fixtures to be used for the purpose of placing and maintaining thereon any wires that may be necessary for the use of the fire department or police of the city; and, Provided Further, such poles and wires shall be erected so as not to interfere with the ordinary travel through such streets and alleys; and Provided, that whenever it shall be necessary for any person to move along or across any of said streets or alleys any vehicle or structure of such height or size as to interfere with any of the wires so erected, the company operating such poles and wires shall, upon receiving twelve (12) hours' notice thereof temporarily remove said poles and wires from such place as must necessarily be crossed by such vehicle or structure; and Provided Further, that whenever the City Council shall, by ordinance, declare the necessity of removing from

the public streets and alleys of the City of Omaha the telegraph, telephone or electric poles or wires thereon constructed or existing, said company shall, within sixty (60) days from the passage of such ordinance remove all poles and wires from such streets and alleys by it constructed, used or operated.

167 SECTION 2. Any person who shall interfere, cut, injure, remove, break or destroy any of the poles, wires, fixtures, instruments or other property of the New Omaha-Thomson-Houston Electric Light Company, or assigns, within the corporate limits of this city, shall be deemed guilty of a misdemeanor and on conviction thereof shall be fined in any sum not exceeding One Hundred Dollars.

SECTION 3. This ordinance shall take effect and be in force from and after its passage."

(5) New Omaha-Thomson-Houston Electric Light Company was a corporation organized under the laws of the State of Nebraska, for the purpose among other things, of constructing and maintaining lines of wire conductors suspended upon poles and cross arms for the transmission of electric current from central or generating stations to points of consumption, and for the production of light for the illumination of public streets and private buildings. Said New Omaha-Thomson-Houston Electric Light Company accepted the grant from the defendant city and the terms thereof and thereafter, beginning in the year 1885, expended a large sum of money, to-wit: more than the sum of \$1,500,000 *Dollars* in the erection of a plant and acquisition of machinery for the generation of electric current and a system of pole lines and wire conductors and all necessary superstructures in the streets and alleys of said city for the transmission of such electric currents throughout the city for the lighting of public streets and sale and distribution of the same to consumers and which said system has, during all of the time since, been maintained, used and operated through and in the streets of said city by means of such poles and superstructures, or by means of subways constructed under the surface of such streets and alleys; that the said New Omaha-Thomson-Houston Electric Light Company and this plaintiff, as its successor, has been, during all of said period, actually engaged in furnishing to private or individual consumers electric current by means of the said plant, and have, during all of said period, been the only persons or corporation engaged generally in said business, or having any authority to occupy the streets and alleys of said city therefor.

168 (6) In the year 1902 the defendant, the City of Omaha, passed an ordinance entitled "An Ordinance requiring all electric and other wires, when used for electric lighting, heat, power and other commercial purposes, excepting those used for propelling street cars and telegraph and telephone wires to be placed under ground in a part of the City of Omaha," whereby it was ordained, among other things, that all persons or companies owning, maintaining or operating electric or other wires in said city, for the transmission of electricity for light, heat and power should on or before

the first day of October, 1905, place all such wires in a district defined by said ordinance, underground, and that after said date no person or company should be permitted to maintain any such wires within the district defined, without first complying with said ordinance, excepting such feeder and trolley wires as were used for propelling street cars and telephone and telegraph wires, and providing a penalty for maintaining any wires overhead in said district in violation of said ordinance; that said ordinance was designed as a police regulation compelling New Omaha-Thomson-Houston Electric Light Company to construct sub-ways and place its wires underground in the district defined by the ordinance and in the extensions of said district. A copy of said subway ordinance is hereto attached and made part hereof and marked Exhibit "A."

(7) Afterwards the life of New Omaha-Thomson-Houston Electric Light Company was about to expire by limitation of time and this plaintiff was organized to become its successor and to take over its property, rights and privileges, and thereupon, to-wit: July 29, 1903, said New Omaha-Thomson-Houston Electric Light Company sold, assigned, and transferred to this plaintiff all of its property, rights and franchises (excepting its corporate franchise) including the right, license and franchise to occupy the streets and alleys of said city granted to said New Omaha-Thomson-Houston Electric Light Company by the ordinance of 1884 as hereinbefore alleged, and the said New Omaha-Thomson-Houston Electric Light Company, prior to said assignment, and this plaintiff, afterwards, fully complied with the requirements of said police regulation and expended a large sum of money, aggregating, to-wit: more than 169 the sum of 400,000 dollars in the construction of subways and in placing such wire conductors in cables underground, within the district defined by said ordinance.

(8) Plaintiff further avers that in the year 1884 and for some time thereafter the use of electric currents for producing power and heat had not been extensively developed; that electric currents adequate for the production of street and inside lighting are required to be of high potentiality and at the time of granting the franchise by the defendant city, as aforesaid, it was, and all of the time since it has been, the universal custom of all companies engaged in generating and distributing such electric currents for use in the production of street and inside lighting to supply consumers with such quantity of current as was or may be demanded for such use as such consumers may see fit to make of the same; that the universal method of companies engaged in generating and distributing electric current for the production of light was at the time of granting said franchise, and ever since has been, except in public street lighting, to sell and transmit the current by means of wire conductors to the premises of the consumer, to be used by him, not for any specific or restricted purpose, but for all purposes for which he desired or may desire to use the same; that the specific use of such currents has never been either dictated by or under the control of such companies; that such currents have always been converted into light by the consumer himself, upon his own premises, by means of a switch or key, the manipulation of which permits the current to flow through a lamp

which, by interposing resistance, produces light and which apparatus is under control of the consumer; that the business, so far as it is controlled and conducted by the company generating and distributing the necessary and adequate electric currents, consists in merely supplying such current to the consumer and upon the consumer's premises ready for conversion to his use; that the conversion of such current into, or the use of the same for the production of power or heat, is and has always been done by the consumer himself, upon his own premises, by means of a switch or key

170 manipulated and operated, upon the same principle as in the production of light, by the consumer himself, and which permits the current to flow through a motor or heating device which is also under the control of, and operated and owned by the consumer; that in the conversion of such currents into power and heat the apparatus by which the consumer converts the current into light is often removed temporarily, and the appropriate apparatus for producing power or heat, according to the requirements of the consumer is connected by him with the identical supply conductor from which he takes the current for conversion into light, without any action whatever on the part of the company who supplies the current, the use of the respective apparatuses being interchangeable as the convenience of the consumer may require; that when the business of the consumer requires the use of current for light and power, or heat, at the same time, the different apparatuses are connected by different conductors, so that identically the same current delivered to the premises of the consumer by means of the same conductor is divided and distributed by the consumer upon his own premises and converted to such use as he desires; that in a great majority of cases the current which is converted into power or heat is taken from the same conductor which simultaneously supplies current for conversion into light, such current being merely divided by means of connecting conductors which distribute the same; that for the supply of consumers who require a large number of power units the plaintiff maintains in said city five exclusive conductors suspended upon the same pole lines or drawn into the same conduits with its other circuits; but in such cases the conversion of the current into power is done by the consumer upon his own premises, by the means aforesaid; that no different use whatever is, or has ever been, made of the streets and alleys of the city, whether the current be employed by the consumer for the production of light, power or heat, and the sale of electric current, by plaintiff, which consumers convert into power or heat, is merely the disposition of surplus product of plaintiff's generating system, exceeding that required by the public for producing light, but which is of great public utility and convenience when

171 applied to manufacturing, business and domestic uses; that the New Omaha-Thomson-Houston Electric Light Company did, during all of the time prior to the transfer to the plaintiff as aforesaid, transmit, and this plaintiff has, during all of the time since, transmitted, electric current in the manner herein alleged to numerous and a continuously increasing number of consumers who converted such electric current into power or heat as such consumers

desired and in the manner and by the devices herein alleged and all with the knowledge and acquiescence of the defendant city.

9. The defendant city has continuously, since 1884, by ordinances passed at various times and intended to apply to the plaintiff and its predecessor, New Omaha-Thomson-Houston Electric Light Company, and to consumers supplied with electric current by each, regulated the installation of conductors and appliances for the transmission and use of such currents for power and heat, all of which said regulations have been complied with by New Omaha-Thomson-Houston Electric Light Company and by this plaintiff. That is to say, that said defendant city has passed ordinances prohibiting all persons from using electric currents for power or heat or from installing new or repairing old apparatus therefor, without first filing plans and specifications for the same in the office of the City Electrician and obtaining a permit for such installation and use, describing the plan of construction, material, apparatus and proposed use; and ordinances empowering and requiring the City Electrician to make inspection of such installations and repairs before and after the same were made and requiring the same to conform to the regulations of the city and the requirements of such City Electrician in the interest of safety; and ordinances requiring said City Electrician to re-inspect all such installations and apparatus at least once each year and to require the persons owning or using the same to conform to the regulations and the requirements of said City Electrician in the interest of safety; requiring the payment of fees for permits for motors, to-wit: 'one-horse power or less, \$1.00, excess at 50 cents; ten-horse power, \$5.50, excess at 25 cents; no charge for any motor installation to exceed \$10.00;' and ordinances requiring the payment of fees for inspection and for permits granted for installation of conductors and apparatus for the conversion of electricity into heat and power; and ordinances requiring all persons and corporations engaged in commercial lighting and power transmission to furnish the City Electrician, on the first day of each month, a report showing each motor installation connected to their system during the month and each such motor installation discontinued during the month; and ordinances requiring all persons doing wiring for motors and for light, heat and power to obtain a permit and pay a license fee of \$5.00 therefor, upon examination and proof of qualification; and ordinances requiring all drop wires designed to carry power current to be heavily insulated; and ordinances prohibiting electric light and power wires being attached to the same cross arm and not to be suspended upon the same pole line with conductors of low potential currents like telephone and telegraph wires, and requiring all wires designed to carry an electric light or power current to be covered with substantial high-grade insulation and all connections with electric light or power conductors to be made at right angles, and pursuant to said regulations the defendants have made inspection of hundreds of installations for the use of electric current for power and heat by consumers to whom New Omaha-Thomson-Houston Electric Light Company and this plaintiff supplies the current pursuant to the franchise aforesaid and the said

defendant city has issued hundreds of permits for such installations and has received the established fees therefor from such consumers and from electricians employed by them and from this plaintiff and its said predecessor, all with full knowledge of the facts herein alleged and with full knowledge that New Omaha-Thomson-Houston Electric Light Company and this defendant were relying upon the grant of said franchise and intending thereunder to furnish the electric current to such consumers.

10. Prior to the transfer of its property and franchise to plaintiff as hereinbefore alleged the New Omaha-Thomson-Houston Electric Light Company supplied the City of Omaha with street lights by contract and by said contract agreed to pay to the defendant
173 city annually, a sum equal to three (3) per cent of its gross receipts from lighting and power business done within the

City of Omaha, excepting such gross receipts as were derived from the said city for such street lighting, and at the expiration of said contract this plaintiff entered into a similar contract with said city, which said contract is still in force and a copy of the same is hereto attached and made part hereof and marked Exhibit "B," whereby plaintiff agreed to pay to said city a sum equal to three (3) per cent of its gross receipts from lighting and power business done within the city and pursuant to said contract said New Omaha-Thomson-Houston Company and this plaintiff have paid to the defendant city in the aggregate the sum of 12,619.00 dollars for gross receipts from the sale of electric current to consumers for the production of power alone, and plaintiff says that continuously since the granting of said franchise, the defendant city and said New Omaha-Thomson-Houston Electric Light Company and this plaintiff have, by practical and almost daily actual application of the same, construed the said franchise license or privilege, granted as aforesaid, as a right to occupy the streets and alleys with the proper appliances for the transmission of electric current for sale to consumers without any restriction whatever upon the plaintiff as to the use to be made of such current by such consumers, the said defendant city having full power to restrict the consumers to lawful uses and safe methods of use; that since the granting of said franchise the use of electricity for the production of power and heat has been greatly developed by invention of new and improved devices, so that the same has come to be very extensively employed by the public for domestic, business and manufacturing purposes; that many important businesses have been equipped at great expense, by the owners, for the use of electric current in the production of power and have become dependent upon such service, such as the grain business operating grain elevators, and all kinds of business requiring freight or passenger elevators in buildings, manufacturing business requiring power for the operation of machinery, and a large part of the current generated and distributed to consumers by plaintiff is employed by said consumers for

174 the production of power and heat; that this plaintiff has relying upon the interpretation continuously given to said franchise as hereinbefore alleged, expended large sums of money, in the acquisition of said plant and franchises from New Omaha-Thomson-Houston Electric Light Company and in the extension and equip-

ment of the same with the newest, most modern and most economical devices and machinery for generating the electric current for supplying the demands of the public, so that plaintiff has now an investment within the City of Omaha of more than 2,500,000 Dollars and its gross annual income from the sale of electric current in Omaha, which is employed by consumers in the production of power, exceeds 116,000 Dollars, and is equal to about one-fourth of its gross income from business within the City of Omaha.

11. The capacity of plaintiff's generating plant and machinery has been developed, improved and enlarged from time to time to meet the increasing necessities and demand of the public for electric current, due to the increased use of electricity caused by new discoveries and inventions, and to the general growth and development of the City of Omaha, and to enable plaintiff to produce such current at the lowest cost to the consumers. To a very large extent the current consumed for producing power and heat is demanded during the day time when the consumption for light is least and the current consumed for producing light is, to a great extent, demanded during the night time when the demand for power and heat is least, and by keeping its plant and system in continuous operation and as nearly as possible to its full producing capacity, plaintiff is able to serve the public at lowest cost and to its own advantage, and plaintiff's whole system has been developed and built up in reliance upon the interpretation of its franchise right as hereinbefore set forth.

12. Until about the 26th day of May, 1908, the defendant city had not questioned the right of plaintiff under the granting ordinance aforesaid to generate and transmit electric current to consumers through, upon, over, and under any of the streets and alleys of said city by means of its pole lines and wire conductors and

175 its conduits and wire conductors therein, or that such consumers had no right to employ electric current so generated and transmitted by plaintiff for the production of power or heat or that the plaintiff had no right to generate and transmit such electric current to any such consumer who would or who intended to use the same for the production of power or heat. But now the defendant city claims and gives out that this plaintiff has no right, under the said franchise, to transmit or deliver to any consumer any electric current which the said consumer may intend to use by converting the same into power or heat on said 26th day of May, 1908, the defendant city, by its Mayor and Council, passed the following concurrent resolution and caused a copy thereof in writing to be served upon plaintiff, to-wit:

"Concurrent Resolution No. 2330.

Resolved, by the City Council of the City of Omaha, the Mayor concurring, that the City Electrician be and he is hereby ordered and directed to disconnect, or cause to be disconnected on or before July 1st, 1908, all wires leading from the conduits or poles of the Omaha Electric Light and Power Company transmitting electricity to private persons or premises to be used for heat or power; and to

take such steps as may be necessary to prevent the said Omaha Electric Light and Power Company from furnishing or transmitting from the conduits or wires electricity to private persons or premises for heat or power purposes; and be it further resolved, by the City Council of the City of Omaha, the Mayor concurring, that the electrician be and he is hereby ordered and directed to remove or cause to be removed on or before July 1st, 1908, all conduits, wires and poles belonging to the Omaha and Council Bluffs Street Railway Company and located in, under, upon or over, any street, alley, thoroughfare, or public place of the City of Omaha and maintained and used by said Street Railway Company for furnishing or transmitting electricity to private parties or premises for light, heat or power purposes.

Introduced by Councilman M. F. Funkhouser.

Passed May 26th, 1908.

Attest:

DAN B. BUTLER,
City Clerk.

Approved:

JAMES C. DAHLMAN, *Mayor.*

L. B. JOHNSON,
Pres. of Council.

176 And on the 16th day of June, 1908, the defendant Waldemar Michaelson, City Electrician of said city, served notice in writing on plaintiff, in words and figures as follows, to-wit:

"City of Omaha, Electrical Department.

Waldemar Michaelson, City Electrician.

OMAHA, NEBR., June 16, 1908.

Omaha Electric Light & Power Company, Omaha, Nebr.

GENTLEMEN: In accordance with Concurrent Resolution No. 2330, passed by the Council May 26, '08, and approved by His Honor the Mayor, June 1-08, you are hereby notified that unless you disconnect or cause to be disconnected before July 1-08, all wires leading from conduit or poles of your company transmitting electricity to private persons or premises to be used for heat or power, it will, on the date above mentioned, become my duty to cause the disconnection of said wires.

Respectfully yours,

WALDEMAR MICHAELSON,
City Electrician."

And the said Michaelson has since notified plaintiff, orally, that he will, on the first day of July, 1908, unless plaintiff then ceases to transmit electric current to consumers who employ the same for the production of power or heat, or for any other purposes than the pro-

duction of light, he will, with the assistance and authority of the police force of said city, execute the concurrent resolution aforesaid, and will, by force, sever the connection of plaintiff's wire conductors so as to prevent the transmission of electric current to such consumers, and continuously, by force, prohibit and prevent the restoration of the same. Plaintiff says as it is the fixed purpose of the said Waldemar Michaelson to carry out the instructions embodied in the joint resolution of the Mayor and Council aforesaid, and it is the intention and purpose of the defendant city to have the same carried out and enforced and for that purpose the defendant
177 city will afford the said defendant Michaelson the protection and assistance of the police force of said city and unless restrained by the process of this court the said defendant Michaelson will execute the said resolution and that such forcible interference with plaintiff's said business will stop the transmission of electric current to plaintiff's patrons within the City of Omaha and to a large number of patrons outside of said City, in South Omaha, Council Bluffs and elsewhere and will prevent the said patrons from carrying on their usual and lawful business and produce enormous losses to them and to the public; that such interference will produce great and irreparable loss and damage to this plaintiff, the amount of which loss and damage, in money, it will be impossible to ascertain and determine so that the plaintiff may be adequately compensated therefor; and that plaintiff has no adequate remedy at law for the wrongs and lawless acts threatened and now about to be committed by the authority and in the name of the defendant city and under color of official power.

Wherefore, as plaintiff can have no adequate relief, except in this court, and to the end, therefore, that the defendants The City of Omaha and Waldemar Michaelson, may, if they can, show why plaintiff is not entitled to receive the relief herein prayed for, and that the said defendants may make full, true, perfect and direct answer hereto and thereby truthfully disclose and make discovery of all the matters hereinbefore alleged, all according to the best and utmost of their knowledge, information and belief (but not under oath, an answer under oath being hereby expressly waived) and that the said defendants The City of Omaha, its officers and representatives and the defendant Waldemar Michaelson and his successors in office may be, by the process and decree of the court perpetually enjoined and restrained from cutting, removing or otherwise severing or disconnecting the wire conductors or any wire conductor, or in any manner whatever interfering with such conductors or any other structure, apparatus or device belonging to plaintiff so as to stop or impede the plaintiff in its business of transmitting electric current to and for the use of any person or
178 persons who have contracted, or who may hereafter contract, for such service to be rendered and performed by plaintiff, and that plaintiff may be thereby completely protected, against the threatened interference with its property and rights, plaintiff prays that Your honors may grant a writ or injunction to be issued out of and under the seal of this court enjoining and restraining the said

defendants, pendente lite as aforesaid, and that, by final decree, the said injunction be made perpetual.

And plaintiff further prays that upon rendering final decree Your Honors will, in addition to the taxable costs herein, assess adequate damages against defendants and in favor of plaintiff, including not only all reasonable expenses incurred by plaintiff in the prosecution of this suit, most unjustly caused by the defendants, but any and all other damages which plaintiff may then have sustained.

And plaintiff further prays that a restraining order be issued by the court restraining the said defendants as aforesaid, pending the hearing of the application to the court for an injunction pendente lite and for such other and further relief as Your Honors may find to be due to plaintiff, and

May it please your Honors to grant plaintiff, not only a writ of injunction conformable to the prayer of this bill, but also a writ of subpoena of the United States of America, directed to the said defendants, The City of Omaha and Waldemar Michaelson, commanding them and each of them, on a day certain to appear and answer this Bill of Complaint and to abide and perform such order and decree as to the court shall seem proper and be required by the principles of equity and good conscience.

WESTEL W. MORSMAN,
Solicitor and Counsel for Plaintiff.

Endorsed: Filed Oct. 2, 1911. Geo. H. Thummel, Clerk.

178½ Thereupon afterwards, to-wit: On the 2nd day of October, 1911, Subpœna was duly issued in said case and returned and filed on the 3rd day of October, 1911, which said Subpœna is in words and figures following, to-wit:—

(Original.)

UNITED STATES OF AMERICA,
District of Nebraska, Omaha Division:

The President of the United States of America to the City of Omaha, Greeting:

You are hereby commanded to be and appear at Rules, to be held at the office of the Clerk of the Circuit Court of the United States for the District of Nebraska, on the first Monday of November next, at the city of Omaha, then and there to answer the Bill of Complaint of Old Colony Trust Company, this day filed against you, hence fail not.

Witness, the Honorable Edward D. White, Chief Justice of the Supreme Court of the United States, this 2nd day of October, 1911.

Issued at my office in the city of Omaha, under the seal of said Circuit Court, the day and year last aforesaid.

[SEAL.]

GEO. H. THUMMEL, *Clerk.*

Memorandum.

The above named defendant to enter its appearance in this suit in the Clerk's office aforesaid, on or before the day at which this writ is returnable; otherwise the bill may be taken pro confesso.

GEO. H. THUMMEL, *Clerk.*

WILLIAM D. McHUGH,
Complainant's Solicitor.

179	Marshal's costs:	
	Service	\$2.00
	Mileage:	
	Expense in lieu of mileage.....	....
	Total.....	\$2.00

Attached to said Subpœna is the Return of the Marshal, which said Return is in words and figures following, to-wit:

DISTRICT OF NEBRASKA, ss:

I hereby certify and return that on the 2 day of October, 1911, I received this Subpœna and on the 2 day of October, 1911, I served the same upon the within-named The City of Omaha at Omaha, in Douglas County, State and District of Nebraska, by delivering to and leaving with James C. Dahlman, a certified copy thereof with all the indorsements thereon, he being the Mayor & highest officer of said city.

WM. P. WARNER,
United States Marshal for the District of Nebraska.
By H. P. HAZE,
Deputy United States Marshal.

Endorsed: Filed Oct. 3 1911. Geo. H. Thummel, Clerk.

180 Thereupon afterwards, to-wit: On the 10th day of November, 1911, Answer to Bill in Equity was filed in said cause, which said Answer is in words and figures following, to-wit:

In the Circuit Court of the United States for the District of Nebraska,
Omaha Division.

No. 130. Doc. "Z."

OLD COLONY TRUST COMPANY, Complainant,
vs.
THE CITY OF OMAHA, Respondent.

Answer to Bill in Equity.

Comes now the respondent, the City of Omaha, and saving to itself all manner of benefit of exception or otherwise that can or may be

had or taken to the many errors, manifold uncertainties and imperfections in the bill of complaint, and for its answer thereto or to so much thereof as it is advised is material or necessary to answer, says:

1. Answering said bill and more particularly the averments of the first paragraph thereof, defendant says that it has no knowledge as to whether or not complainant is a corporation, and if so where created, and has no knowledge as to whether or not it is authorized to act as trustee under mortgages or trust deeds, or whether or not it has authority to acquire, receive, hold and dispose of securities in trust or to protect the same, and because of the want of such knowledge on its part neither denies or admits said averments.

2. Further answering said bill and more particularly the averments of the 2nd paragraph, defendant admits that it is a municipal corporation organized under the laws of Nebraska and
181 was such corporation and so organized during all the times mentioned in said bill.

3. Further answering said bill and more particularly the averments of the 3rd paragraph, defendant admits that in 1884 commercial use of electricity was not so general as it has since become; denies that for some years preceding said date it had been used in large cities of the United States for commercial purposes and its adaptability for the production of power and heat and for other commercial purposes was appreciated. Admits that electricity is now generated and distributed in the manner stated in said paragraph, but denies that in 1884 or preceding that date electrical energy was utilized by the consumer for other than lighting purposes. Admits that at said date and preceding said date the companies engaged in generating and distributing electrical energy were generally known to be engaged in the electric light business. Denies that such companies did not furnish light to consumers but furnished merely electrical energy or current; denies that the consumer utilized such energy as he desired, or at the time stated or before that time used such energy for any other purpose. Admits that before 1884 the term "general electric light business" had a well understood meaning, but denies that it was understood to define the business of generating electricity and distributing it over wires to the premises of the consumer to be by him used in producing light, power, heat or for other commercial purposes. Denies that in said year 1884, and for some time prior thereto, said business was so understood by the
City of Omaha.

182 In this connection and in further answer to said averments, defendant says that in 1884 and for some time prior thereto, its officials were without knowledge of the use of electrical energy for any other purpose than the production of light and were without knowledge of the possibilities of its future development or other uses, and in preparing and granting Ordinance No. 826 had in mind the granting of a privilege for the use of the streets for the distribution of electricity in the production of light only.

4. Further answering said bill and more particularly the averments of the 4th paragraph, defendant admits that in December,

1884, it duly enacted Ordinance No. 826, and that Exhibit "A" attached to the bill is a copy thereof. Denies that by said ordinance it granted unto the New Omaha-Thomson-Houston Electric Light Company and unto its successors and assigns, in perpetuity or otherwise, the right to erect and maintain poles and wires with needed appurtenances in, through and over the streets, alleys and public grounds of said city for the purpose of transacting a general electric light business, and in this connection avers that this defendant then was without power or authority to grant any such right in perpetuity, and that said company was not incorporated or in existence and therefore no right of the kind could lawfully be granted to it. Admits that said ordinance was passed on December 14, 1884, was approved by the mayor and attested by the clerk on the 17th day of December in said year, and took effect immediately thereafter. Admits that the portions copied in said paragraph four are correctly copied parts of said ordinance.

5. Further answering said bill and more particularly the 183 averments of the 5th paragraph, defendant denies that its officials all knew and understood that the term "general electric light business" included the business of generating electricity to be distributed to and utilized by the consumer for the production of power or heat or other purposes than light. Denies that it or its officials, in passing and approving said ordinance or in the use of the term "general electric light business" therein, intended any other meaning than the production of light thereby. Denies that it or its officials intended to grant to said company and its assigns, in perpetuity or otherwise, a right of way or easement over its streets to produce and distribute electrical energy for any other purpose than the production of light. Defendant is without definite information as to the exact sense in which the pretended grantee in said ordinance understood the term "general electric light business," but believes that said pretended grantee understood it in no other sense than an easement and right of way to generate and distribute electrical energy for the production of light only, and therefore denies that said pretended grantee understood said terms in any other sense. Denies that it installed its plant and operated the same believing said terms to have any other meaning. Denies that this defendant and its officials knew at the time of the passage of said ordinance that said company in accepting the same or in constructing its plant accepted it and proceeded therewith understanding and believing that said terms comprehended the use of electrical energy for any other purpose than the production of light. Denies that said company understood or believed that it was receiving a perpetual grant of easement and right of way in the streets

184 of defendant for the purposes stated or any other purpose, and in this connection avers that on the contrary it had every reason to believe and understand that said company in accepting and acting under said grant, understood it and believed it to be one of limited term inasmuch as said company had incorporated only for the term of twenty years and had made no provision for a continued existence.

6. Defendant further answering said bill and more particularly the averments of the 6th paragraph, denies that the passage and approval of said ordinance by it, and the pretended acceptance thereof and the erection of a plant by said New Omaha-Thomson-Houston Electric Light Company, constituted a contract between it and said company and that there was thereby granted to said company and its assigns a perpetual right of way and easement, through, upon and over its streets and public grounds for the purpose of transacting a general electric light business in the manner stated and set forth or in any other manner, and denies that there is in force any contract or ordinance and denies that the obligation of the pretended contract claimed in said bill is protected by the Constitution of the United States from impairment by the State of Nebraska or its agencies.

7. Further answering said bill and more particularly the averments of the 7th paragraph, defendant denies that under the laws of this state or under its charter at the time said ordinance was passed and claimed to have been accepted, it had or possessed power to grant to said company or to any company a right of way or easement, for the purpose as therein stated, perpetually. Admits that such laws as existed at the time in relation to such matters, entered into and became a part of such contract, if any, as may have resulted from the acts of the parties. Denies that said company in its pretended acceptance of said ordinance and in the construction of its plant, relied upon the laws of the state of Nebraska or entered into the contract with knowledge of or in reliance thereupon.

8. Further answering said bill and more particularly the averments of the 8th paragraph, defendant admits that the New Omaha-Thomson-Houston Electric Light Company was incorporated under the general laws of this state in 1885, with the purpose and power of constructing and operating the necessary apparatus and facilities for generating and distributing electricity, but denies that its purpose was to generate and distribute electrical current for other than lighting purposes. Defendant denies that it or its officials at the time of the passage of said ordinance, had any knowledge of the intention of any set of persons to incorporate a company with limited or unlimited powers and purposes, to accept or to act under said ordinance either as a corporation or otherwise. Admits that Exhibit "B" is a copy of the articles of incorporation of the New Omaha-Thomson-Houston Electric Light Company.

9. Further answering said bill and more particularly the averments of the 9th paragraph, defendant denies that said company accepted said ordinance; admits that it did construct and put in operation in said city a central station generating plant to generate electric current and did set poles and string wires in many of the public streets and places of the defendant city and did distribute electrical current to the defendant city and many of its residents, to be used for light, but denies that the same was to be used for any other purpose. In this connection avers that electrical current from the plant of said company, for many years after its

construction, was not used for any other purpose than lighting. Admits that said company's plant and distribution system was constructed, and so far as furnishing light was concerned, was operated under said ordinance, but denies that such part of said plant as may have been devoted exclusively to generating and distributing electrical current for any other purpose, was constructed and operated under said ordinance. Admits that the plant so constructed has been ever since maintained, operated and used in defendant city and in its streets and public places by said company and its successors and assigns, but denies that the same has been done agreeably to the terms and conditions of said ordinance except insofar as furnishing light is concerned, and in this connection avers that insofar as the same relate to furnishing current for any other purpose, said company and its assigns have been mere trespassers upon the streets and public places of the city and maintainers of a nuisance therein, and without the protection or sanction of defendant. Admits that said company or its assigns has furnished electrical current by means of its plant to defendant for lighting its streets, and to private consumers in said city and surrounding territory for the production of light, and admits that for some years last past said company has through its plant and system furnished and supplied electrical current for other than lighting purposes, but in this connection avers that in so doing said company and its assigns have exceeded their authority under said ordinance and to such extent have been mere trespassers without authority or right upon the streets and
187 public places of defendant city. Admits that said company and its assigns may have solicited patrons offering to furnish electric current for other uses that the production of light, and admits that they may have so advertised the business. Denies, however, that this defendant and its officials at all times had full knowledge of such facts or claims. Denies that defendant knowingly or advisedly acquiesced in or consented to or dealt with and treated said company and its assigns as the rightful owners of the power and privilege under said ordinance to generate and distribute electrical current for any other purpose than lighting. Defendant denies that said company expended large sums of money in equipping its plant to furnish current for any other purpose than that of lighting; denies that it ever placed any construction upon the powers and rights of said company which would authorize it or justify it in believing that it had or possessed the right and authority to furnish electric current for any purpose other than lighting; and in this connection avers that such outlays as it may have made in the way of constructing its plant were reasonably necessary to prepare it properly to furnish current for lighting purposes adequate to the demand therefor.

10. Further answering said bill and more particularly the averments of the 10th paragraph, defendant denies that by any act of it or its officials, it intended to or did place a practical interpretation upon the terms of said ordinance which would justify or encourage said company or its assigns in the reasonable belief that said defendant had, by said ordinance or intended thereby, to privilege it to

188 use the streets and public places for the distribution of current for other purposes than that of lighting. Denies that it has ever intended to sanction, justify or excuse and that it has never sanctioned, encouraged or excused the distribution of current for other purposes than lighting.

11. Further answering said bill and more particularly the averments of the 11th paragraph, defendant admits that on December 20, 1892, it passed Ordinance No. 3391, and that Exhibit "C" of the bill is a correct copy thereof, which ordinance was approved December 24, 1892. Admits that said ordinance defined the duty of the Electrician and established rules and regulations concerning electric work, wires and poles and established methods of installing and wiring for the use of electricity. Admits that the said New Omaha-Thomson-Houston Electric Light Company obeyed said ordinance and complied with its provisions. Admits that probably some inspections were made by the Electrician and some permits issued to connect or install the wires of said company in premises where the current was designed and intended to be used for power purposes, and that reports of such inspections were made to the defendant. And in this connection avers that its attention was not challenged or called to the fact that said company was exceeding its powers under any authority which had been given it by the defendant, and that had its attention been so challenged or had it suspected that said company was abusing its privilege and authority for the purpose of building up a colorable claim to a right to use the streets for such purposes, it would have immediately taken the necessary steps to prevent further use of its streets for such purposes. That the use which complainant made of the streets
189 for said purposes and the use which defendant permitted, was a mere permissive use and in no sense intended as a practical or working interpretation of said company's right under the ordinance to use the streets for such purposes. That the passage of Ordinance No. 3391 was to establish rules and regulations to govern those concerns or persons having first procured a franchise or permit for such purposes and to govern those whom the city might permit to generate and distribute electricity for any purpose.

12. And further answering said bill and more particularly the averments of the 12th paragraph, defendant admits that on March 20, 1894, it passed Ordinance No. 3791, which ordinance was approved March 26, 1894, and that Exhibit "D" is a correct copy thereof. Admits that Ordinance No. 3791 repealed Ordinance No. 3391 and contained additional and improved rules and regulations for the installation and wiring of plants and the generating and distributing of electric current. Admits that the New Omaha-Thomson-Houston Electric Light Company thereafter governed its business according to such rules and regulations, and that it may have under said ordinance connected its apparatus with the premises consuming electrical current for power as well as other purposes. In this connection avers that such rules and regulations were intended to apply to all persons and concerns generating and distrib-

uting electricity for any and all purposes and that its application to said company, so far as supplying current for heat and power, was merely to regulate the permissive use of the streets by said company for said purposes and not in recognition of its rights under any claim of franchise so to do, and without knowledge that said company was claiming the right so to use the streets
190 under the provisions of said Ordinance No. 826.

13. Further answering said bill and more particularly the averments of the 13th paragraph, defendant admits that on March 1, 1898, it passed Ordinance No. 4366, which was approved March 3, 1898, and that Exhibit "E" is a correct copy thereof. Admits that said Ordinance and its provisions were intended to regulate the generation and supply of electric current for all purposes and in terms did attempt to so regulate it, including installation, wiring, and apparatus for such purposes. Admits that said company in a large measure complied with the provisions of said ordinance and that it probably made many connections in conformity therewith, for all purposes for which it was supplying current. In this connection avers that the provisions of said ordinance were intended to and did apply to all persons and concerns engaged in generating or distributing electrical current. That it applied the provisions of said ordinance to said company for the purpose of regulating it in its use, under the alleged franchise ordinance, and rights, to furnish light, and under its permissive use by the defendant of the streets for the purpose of distributing electrical current for other purposes, but was a mere regulation and so intended, and not a grant of power and never so intended. That it was not intended as a practical interpretation or definition of said company's authority under its alleged franchise or its rights to use the streets for any purpose other than that of furnishing light; and without knowledge or intimation that said company was claiming the right to furnish energy for heat and power under the grant in Ordinance No. 826.

14. Further answering said bill and more particularly
191 the averments of the 14th paragraph, defendant admits that on March 4, 1902, it made a contract with said New Omaha-Thomson-Houston Electric Light Company, and that Exhibit "F" is a copy thereof, for the furnishing of electric light to light the streets of defendant, and that said company agreed to and did pay a sum equal to three per cent. on the gross business on March 3, 1903, amounting to the sum of \$5,683.90, and that the receipt and voucher copied in said paragraph is a correct copy thereof. In this connection defendant avers that in making said contract with said company and in requiring it to make said payments, and in signing the receipt for such payment, the same and all the same were not intended as a grant of power and authority to said company to use the streets of defendant for other than lighting purposes except for such time as it might elect to permit such use for such purposes, and was not intended as a recognition of said company's right to use the streets for such purposes under any claim of franchise rights so to do, but merely during such time as it elected to permit

it, and without knowledge that said company was claiming such rights under said Ordinance No. 826.

15. Further answering said bill and more particularly the averments of the 15th paragraph, defendant admits that on March 5, 1902, it passed Ordinance No. 5051 which was approved on March 8, 1902, and that Exhibit "G" is a correct copy thereof. That said Ordinance required all persons and Companies operating electrical plants for the transmission of electricity for various purposes, to place underground before May 1, 1903, all wires within specified districts. That said Company was operating its plant in said districts and that it did place many of its wires underground pursuant to the requirements of said ordinance and that it required the expenditure of some money, the amount of which defendant does not know. That said company furnished to defendant or its Board of Public Works, maps, plans and details showing wires which it used for the various purposes, and that said company reasonably adapted its plant or parts to the requirements of said ordinance. In this connection defendant avers that as a matter of police regulation it possessed the full power to pass said ordinance, and in applying it to the plant or parts thereof of said company, it did not constitute a grant of authority to said company to continue the use of its apparatus for furnishing current for other than lighting purposes longer than the city saw fit to permit the use for said purposes. That said ordinance was not intended as a practical or working interpretation of the rights of said company to use the streets of defendant for said purposes under its claimed franchise, but was merely intended properly to regulate it in that respect so long as it elected to permit such use.

16. Further answering said bill and more particularly the averments of the 16th paragraph, defendant denies that on February 2, 1898, or at any other time, the Supreme Court of this state decided and announced the law of Nebraska to be that municipal corporations in this state with similar charter provisions to those of defendant in the year 1884 were invested with ample grant of power to grant the use of their streets to public service corporations in perpetuity. In this connection avers that defendant had not at said time and has never had, and that municipal corporations of this state with similar charter provisions to those of defendant, had not and they never had the grant of power from the legislature to give in perpetuity to public service corporations or others, the right to use the streets and public places for the purpose of carrying on the business in which it was engaged.

17. Further answering said bill and more particularly the averments of the 17th paragraph, defendant admits that said company prior to June, 1903, had extended its system of distribution in defendant city and the City of South Omaha, villages of Dundee and Benson, but denies that it had received lawful authority so to do from said city or said villages, and admits that it furnished to said city and said villages electrical current, but denies that the same was furnished or used for other than lighting purposes.

18. Further answering said bill and more particularly the 18th paragraph, defendant denies that in July, 1903, the Omaha Electric Light and Power Company (hereinafter called the power company) purchased of the New Omaha-Thomson-Houston Electric Light Company, all of said latter company's property, rights, franchises, contracts, good will, privileges and assets of all kinds. Denies that said power company is a corporation or that it possessed the power or authority to deal in, purchase or acquire, operate and maintain electric lighting plants. Denies that the New Omaha-Thomson-Houston Electric Light Company conveyed, transferred and delivered to said power company, all of said property, rights, franchises and privileges. Admits that said power company did take possession of the property and business of said New Omaha-Thomson-Houston Electric Light Company and has since conducted and extended said business. In this connection avers that said New

Omaha-Thomson-Houston Electric Light Company had and 194 enjoyed no privileges and rights to use the streets of defendant, which it could sell, dispose of or transfer, other than the right to furnish current for lighting purposes alleged to have been granted to it by said Ordinance No. 826.

19. Further answering said bill and more particularly the averments of the 19th paragraph, defendant denies that said power company purchased the plant or took possession thereof or paid for the same relying upon or with any knowledge of the law of Nebraska as claimed in said bill, or relying upon any construction given to Ordinance No. 826 by defendant and its officials or its predecessor company, or with any knowledge of any practical construction placed upon said ordinance by said city and said company at any time during the operation of said company thereunder. Denies that said power company purchased said property and took possession thereof or has operated same in the belief and with the understanding that Ordinance No. 826 constituted a grant of the right of way over the public streets perpetually either for the purpose of generating and distributing current for light or for other purposes, and denies that defendant knew that said company purchased or possessed itself of the property aforesaid with any knowledge of the said facts or with any belief in respect thereto as therein stated. In this connection avers that said company knew, when it possessed itself of said property and during all the time of its operation thereof, that Ordinance No. 826 at most gave authority to it to use the streets and public places of defendant for the sole and only purpose of distributing electric current for lighting. That

it knew that such uses as had been made thereof by said 195 predecessor company or by it for distributing current for other than lighting purposes, were permissive only, and would continue only for such time as defendant might elect to permit. That it was not permitted or justified in believing that the known wrongs and trespasses of its predecessor and its own, operated or would operate to confer upon it a right to continue the same during eternity.

20. Further answering said bill and more particularly the aver-

ments of the 20th paragraph, defendant admits that said power company has continued to maintain and operate the plant in said paragraph mentioned and has improved and extended the same and has furnished current to patrons who have used the same in the production of light, heat and power. Admits that said company has extended its plant and has and continues to furnish current for the said various purposes to adjoining communities, such as Council Bluffs, South Omaha, Benson, Florence, Dundee, Fort Crook, Bellevue and East Omaha, but as to various districts in the state of Nebraska this defendant is without information or belief, and therefore neither denies or admits the same. In this connection defendant avers that though said power company has furnished current for other than lighting purposes and has used the streets to that end, yet it has been done simply under the permission of the defendant and not in recognition of its rights so to do under said Ordinance No. 826 and not as a practical or working construction of the powers and privileges granted by said ordinance, and without knowledge that said company was claiming the right to furnish current for other than lighting purposes under the provisions of said Ordinance No. 826.

21. Further answering said bill and more particularly the averments of the 21st paragraph thereof, defendant says that it is without information or belief as to whether it is impossible absolutely and accurately to separate the earnings of complainant so as to show precisely the various sources of its receipts, or that there is necessarily included in the estimate for light, receipts from other sources, and therefore neither denies or admits the averments in respect to such matters. Denies, however, that the tabulation and statement of the various sources of receipts and the correctness as to the amount thereof, found at the close of said 21st paragraph, correctly represents the various sources from which receipts have been obtained for the various years, or correctly represents the several and various amounts in respect thereto.

22. Further answering said bill and more particularly the averments of the 22nd paragraph, defendant admits that said power company has installed many wires in its streets and has made connections to premises of consumers for the distribution of current; that such installations and connections have been made under the supervision of the Electrician of defendant pursuant to ordinances of defendant for that purpose, and that reports have been by him made to the defendant respecting such installations and connections. In that connection defendant avers, however, that such installations and connections were made and required to be made in the exercise of its police power over the business of such company to the end that its streets and public places might be kept reasonably safe for use and free from nuisances. That such regulation and supervision was not made or intended to be made in recognition of other than a permissive right to use the streets and public places for said purposes, so long as it might see fit to allow the same to be used for said purposes, and was not in recognition of a right or authority so to use the streets by said power company under

said ordinance No. 826 or the rights thereby conferred, and without knowledge of any such claims on the part of said company so to do.

23. Further answering said bill and more particularly the averments of the 23rd paragraph, defendant admits that said power company continued to make payments of the royalties exacted under its contract of March 4, 1902, and that the first payment was made on January 15, 1904, constituting a payment for the preceding year, and was by voucher, and that the voucher copied at the close of said paragraph is a correct copy of the voucher and receipt for such payment, and that thereafter other and similar vouchers and receipts were paid and given pursuant to said contract.

24. Further answering said bill and more particularly the averments of the 24th paragraph, defendant denies that on May 18, 1904, the Supreme Court of this state decided that an Ordinance similar to Ordinance No. 826 vested in a public service corporation a grant in perpetuity of a right of way or easement over all or any of the public ways of cities in Nebraska, unrestricted and unlimited, and having powers similar to those possessed by defendant in 1884, and that such municipal corporations had the delegated power to grant such perpetual rights over their public streets to public service corporations.

25. Further answering said bill and more particularly the averments of the 25th paragraph thereof, defendant denies that the law as declared by said court in said state constitutes a rule of 198 property and upon the faith of which said power company expended any money in developing and extending its system; denies that it had any knowledge that the said power company was expending any money in reliance upon any actual or supposed existing rules of law in this state, as stated in its bill.

26. Further answering said bill and more particularly the averments of the 26th paragraph thereof, defendant admits that on December 13, 1904, it passed Ordinance No. 5433, which enlarged the district within which companies maintaining electric wires for transmission of electric light, heat and power should place such wires underground, and that said ordinance was approved December 20, 1904, and that Exhibit "H" is a copy thereof. Admits that said company, pursuant to the provisions of said ordinance, expended some money in compliance with its provisions, but as to the amount stated in said paragraph this defendant is without knowledge or belief and neither denies or admits the same.

27. Further answering said bill and more particularly the averments of the 27th paragraph thereof, defendant admits that on April 12, 1905, said power company and defendant entered into a written contract, and that Exhibit "I" is a copy thereof, by which said company agreed to light the streets of defendant, and that said company agreed to pay a sum equal to three per cent of its gross receipts of the lighting and power business done within defendant city. Admits that on December 31, 1905, the said power company paid the defendant \$8,449.40 as royalty under said contract for the year 1905, and that the voucher and receipt copied in the closing

part of said paragraph is a true copy thereof and that other
 199 small payments were made and vouchers and receipts given.

In this connection avers that in making said contract and in
 exacting the payments of said royalty, the exactions were made by
 defendant reasonably to compensate it for the permissive use of its
 streets and public places for the distribution of current for light,
 heat and power, but was not intended as and was not a grant of
 authority for an indefinite continued use for said purposes, and was
 not in recognition of any right of said power company under said
 Ordinance No. 826 other than its right to distribute current for
 lighting purposes, and was without knowledge of any claim of the
 right to furnish current for power and heat purposes under said
 Ordinance No. 826 by said company.

28. Further answering said bill and more particularly the aver-
 ments of the 28th paragraph, defendant denies that it was without
 belief that the right of said company to use the streets would soon
 expire and denies that it and its officers understood and believed
 and acted upon such understanding and belief that the rights of
 said company had not and would not soon expire. Denies that it
 believed or understood or acted upon any such belief that said
 company had a perpetual right to the use of the streets and alleys
 and public places for the purpose of distributing electric current for
 any purpose. In this connection avers that at all times it under-
 stood and believed that said power company's rights to the use of
 the streets and public places are limited by the terms and provisions
 of Ordinance No. 826 and that the life or existence of said ordinance
 and the rights thereunder were limited by the life of the New

Omaha-Thomson-Houston Electric Light Company and that
 200 such rights would end and terminate with the end and termi-
 nation of the life of said company. That thereafter the
 streets and public places for the distribution of current for lighting
 could be used by the permission of defendant so long as it might see
 fit to give such permission, or by the grant of a franchise for a
 reasonably limited period of time. That it all the time under-
 stood and believed, and on such understanding dealt with said
 power company and its predecessor, that they and each of them had
 no authority to use its streets and public places for the distribution
 of current for heat and power purposes except only for such length
 of time as it might permit such use for such purpose. That it had
 and possessed the full right, authority and power at any time to
 terminate such permission and compel a discontinuance of such
 use by said power company and the removal of its property.

29. Further answering said bill and more particularly the aver-
 ments of the 29th paragraph, defendant admits that on August 7,
 1909, defendant passed Ordinance No. 6804, which was approved
 August 7, 1909, and that Exhibit "J" is a correct copy thereof.
 That such ordinance imposed an occupation tax on said power com-
 pany and others engaged in a similar business, amounting to three
 per cent of the gross receipts from the sale of current. Admits that
 said power company has since paid such occupation tax of three
 per cent on the gross receipts from the sale of electric current for

light, heat and power purposes. In this connection defendant avers that in so doing it had no purpose to and did not understand or grant any power or authority to said power company to occupy its streets beyond a permissive occupancy thereof.

30. Further answering said bill and more particularly the
201 averments of the 30th paragraph, defendant admits that it entered into a written contract with said power company on December 31, 1909, of which Exhibit "K" is a copy, for the furnishing of lights to certain streets and providing for a royalty to be paid to defendant amounting to a sum equal to three per cent of the gross receipts from the various sources coming to said power company, and admits that said company made itemized statements of its gross receipts of sale of current for various purposes, and that the royalty provided has been paid to the defendant by said company upon vouchers and receipts of the kind previously set forth in complainant's bill.

31. Further answering said bill and more particularly the averments of the 31st paragraph, defendant denies that it recognized the right of said power company and its alleged grantor, under Ordinance No. 826, to use the streets and public places of defendant to distribute electric current for other than lighting purposes. Admits that it did for some years and in small ways purchase and utilize current for power purposes. Admits that since March, 1908, defendant has owned and operated an asphalt paving repair plant and that it obtained from complainant electrical energy for that purpose. Admits that it owns and operates a cross-walk department and obtains from said power company electrical current for power purposes. Admits that in 1911 it has obtained current from said power company and used the same to operate the elevators in its City Hall. Defendant has no knowledge of the use of current by the Board of Education for power purposes in the various public schools, or the payments thereof by said board, and consequently neither admits nor denies the averments as to such matters. Admits that it has for its

202 various needs used electric current for power purposes, and in this connection avers that in applying for and procuring current from said company and its alleged grantor, it did so not in recognition of or affirmation of said company's claim of right to furnish such current for such purposes under said Ordinance No. 826, but simply under the permissive right to do so so long as it elected to grant such permission. That it did not thereby intend to grant to said company a right perpetually to use the streets for that purpose.

32. Further answering said bill and more particularly the averments of the 32nd paragraph, defendant admits that more or less current supplied by said company is used in said city, but as to the extent thereof and as to any arrangements and equipments which have been made for that purpose, defendant is without information and cannot and does not admit or deny the averments respecting the same, but denies that the current so furnished for other than lighting purposes has been or will be furnished under any franchise right granted by the defendant. Denies that any equipment which con-

sumers of current for other than lighting purposes have installed, has been done in reliance upon any franchise rights granted by the defendant. Admits that said company has expended some money in developing its business and making its improvements and supplying its current, but denies that such expenditures were made in reliance upon any franchise granted by this defendant except as to light, and denies that defendant believed or had any reason to believe that it had and possessed any right or authority, except a mere permissive right to use the streets and public places of defendant,

203 for any other purpose than supplying current for light.

Admits that more current for power and heat is demanded and used during the day time and more for light during the night time, and by such division of employment said plant might be operated with greater economy and that the cost of current is actually less than it might otherwise be, but denies that said company has ever given or undertaken to give to the public benefit of low prices for any of its current, but has at all times received and exacted for all current unreasonable and extortionate charges therefor.

33. Further answering said bill and more particularly the averments of the 33rd paragraph, defendant denies that it is estopped by any act on its part or the part of its officials to question the right of the power company or the complainant herein, being mortgagees thereof, to use its streets and public places in its business, and denies that any such law has been announced by the Supreme Court of this state either in 1907 or at any other time, or that any rule of property of that kind or character has been established or declared by said court and applicable to the facts in this case.

34. Further answering said bill and more particularly the averments of the 34th paragraph thereof, defendant is without knowledge or other information than is alleged, set out, and recited in said bill, as to whether or not said power company mortgaged its property to the complainant, and as to the amount and terms of such mortgage. That it is without knowledge and information, except as aforesaid, as to the purpose of issuing said mortgage or the bond secured thereby, or as to the terms of the bonds, or as to whether or not, Exhibits "L", "M", "N", "O", and "P", are true copies of instruments in relation thereto, or as to whether or not the various claims, things and acts pleaded to have been done by the complainant were or were not done, and therefore neither admits nor

204 denies the averments of said paragraph in such respects, but in connection avers the fact to be that complainant acquired thereby no other, larger, different or additional rights, as against this defendant, than were possessed by its mortgagor, and took said property and held the same, so far as it is concerned, subject to all the conditions, restrictions and limitations as to its franchise, rights, and powers as to its mortgagor then had and possessed and with no larger rights in that respect.

35. Further answering said bill and more particularly the averments of the 35th paragraph, defendant denies that the purchasers and holders of said bonds, if any, took the same with any knowledge whatever respecting the rights of the mortgagor or any claim of its

rights respecting its authority to use the streets of defendant to distribute current for power and other than lighting purposes, or that such claims in any way were relied upon or that they had any knowledge of any interpretation of any right or claim of right, other than the right to furnish current for light under Ordinance No. 826 or that they took the same with any knowledge whatever or any reliance upon any decision of the Supreme Court of the State of Nebraska in respect to the powers of municipalities to grant a franchise in perpetuity or otherwise. Denies that complainant accepted any trust or entered upon the discharge thereof having any knowledge whatever of the claims of its mortgagor, if any, to furnish current for other than lighting purposes, or in reliance upon any such claims, or with the understanding that its mortgagor possessed any such power or authority under any grant to it by defendant.

36. Further answering said bill and more particularly
205 the averments of the 36th paragraph, defendant admits that the value of the property claimed to be held by complainant as trustee depends in a large measure upon its rights to use the streets and public places of defendant, but denies that such property is of comparatively small value or insufficient in value to meet fully and satisfy in full all claims there against if any, held in trust by said complainant. Denies that if said power company is required by defendant to discontinue furnishing current for other than light purposes and is required to remove from the streets and public places of defendant equipment and apparatus otherwise employed than in furnishing light, that the security, if any, which complainant holds will be thereby impaired and rendered insufficient to protect the obligations thereby secured. Denies that it is necessary in order to protect the claims held by complainant **in trust, to permit** said power company to occupy the streets and public places of defendant perpetually for the purposes of supplying current for power, heat and other commercial purposes. In this connection avers that even though said power company be required to discontinue furnishing current for other than lighting purposes in defendant city, and remove from its streets all wires and poles and other apparatus employed in that service, and even though the securities held by complainant, if any, should be greatly impaired and rendered insufficient in value to protect the claims secured thereby, if such they be, are irrelevant and immaterial, and give complainant no right to maintain this action inasmuch as it and the claims which
206 it holds, if any, together with security, are each and all subject to the restrictions and limitations and the rights and powers which its mortgagor possessed.

37. Further answering said bill and more particularly the averments of the 37th paragraph, this defendant admits that it or its officials, until on or about the 26th day of May, 1908, at which time it caused to be passed by its council the resolution set out in said paragraph and numbered 2330, which resolution directed said power company to discontinue the use of the streets of defendant

for the purpose of transmitting current for other than lighting purposes, and to that end to disconnect before July 1, 1908, all wires and apparatus occupying and using the streets and public places of defendant for the purpose of transmission of electric current for other than lighting purposes, had not questioned the right of said power company so to carry on said business. Admits that in obedience to said resolution, its Electrician, one Waldemar Michaelson, served notice in writing upon said power company advising that unless said company discontinued the use of said streets for furnishing current for power and heat and made the disconnections required, that he, as such officer, would proceed to do so. In connection with said matters and averments, defendant says that prior to said May 26, 1908, it had been satisfied and content with said power company's use of the streets for the distribution of current for other than lighting purposes, and had permitted and tolerated such use, and on or about said date, becoming dissatisfied with said company's further use of the streets and public places of defendant for said purposes, it elected to terminate the permission which it had theretofore tolerated and to give to said company a reasonable
207 time in which to discontinue the use of said streets for said purposes or to apply to defendant for a franchise right to use the streets for said purposes, wherein and whereby more specific and definite regulations might be imposed and more just and equitable exactions required for the use of said streets for said purposes.

38. Further answering said bill and more particularly the averments of the 38th paragraph, defendant admits that it is its purpose and intention to carry out and enforce the provisions of the resolution contained in the 37th paragraph of said bill, and that to that end it will employ and use the necessary officers and powers at its command to compel obedience in respect to the commands of said resolution.

39. Further answering said bill and more particularly the averments of the 39th paragraph, defendant admits that the business of said power company is to generate and distribute electricity, but denies that the consumer of electric current may devote it, without said company's consent, to such purposes as he may desire. Admits that the current is delivered by means of wires connected with the premises of the consumer, and that in many instances now the current and energy is used for other than lighting purposes, but denies that to disconnect all wires carrying electricity for power and heat purposes would disconnect many hundreds of wires carrying the current for light purposes; denies that said power company is without control over the use to which a consumer may put the energy supplied him and that the enforcement of said resolution would practically destroy the business of said company.

40. Further answering said bill and more particularly the averments of the 40th paragraph, this defendant is not advised
208 of the extent or the manner in which the enforcement of the provisions of said resolution might affect the consumers of said power company in defendant city or in adjacent communities, but believes that the enforcement of the said resolution would not

entail the losses and damages to such customers as is averred in said paragraph, and would not entail upon said power company or complainant company nor the interests of those whom complainant company pretends to represent, the losses and damage claimed in said paragraph, and therefore denies the averments of said paragraph in said respects. Denies that it will render the security which complainant company pretends to hold or represent, inadequate in value to protect the interests alleged. Denies that it will give rise to a multiplicity of suits and will deprive complainant company and the holders of the securities which it pretends to represent of a large and valuable and necessary portion of the mortgaged property. Denies that it will impair the obligation of any contracts pleaded in said bill by complainant or that it will constitute the taking of private property without compensation and without due process of law and in violation of the Constitution of the United States. In relation to such averments, and as further answer thereto, defendant says that the enforcement of said resolution will have no other or different effects and result than to compel said power company to apply to defendant and obtain and procure from it a franchise and right to occupy its streets and public places for the purpose of carrying on its business under such reasonable terms, restrictions, conditions and exactions as will

209 properly protect defendant and its inhabitants against wrongful trespass and intrusion upon its streets and public places, and will protect the citizens and inhabitants of defendant from unlawful, exorbitant and unreasonable exactions and charges for the services rendered by said power company, and will thereby render such securities as said power company may have issued and the value thereof fixed and certain, thus protecting and safeguarding, rather than destroying and injuring such securities as complainant may represent.

Defendant further denies that the resolution passed May 26 and referred to and copied in the 37th paragraph of said bill, is in substance and legal effect a state law. Denies that the passage of said resolution is such an act as in legal substance or effect could or would impair the obligation of contract, and denies that the passage of such resolution impairs the obligation of any contract or contractual rights, if any, secured to said power company by Ordinance No. 826 or the action of the various parties in respect to any rights accruing on account thereof, and denies that said resolution is unconstitutional and void for the reason that it violates the provisions of the constitution of the United States. In respect to such averments defendant says that in passing said resolution and in undertaking the enforcement of the same, this defendant was exercising a right expressly given and reserved to it under the provisions of said Ordinance No. 826 and related to its proprietary right to control and regulate the use of its streets and public places to exploit and carry on a business therein by said power company, and was not the exercise or attempted exercise of granted or governmental powers on its part.

41. Further answering said bill and more particularly the aver-

210 ments of the 41st paragraph, defendant denies that the amount in dispute, exclusive of interest and costs, exceeds \$10,000.00.

42. Further answering said bill and more particularly the averments of the 42nd paragraph, defendant admits that on June 29, 1908, said power company presented to this court in this division, a bill in equity against this defendant and its officers, seeking to enjoin the defendant and its officers from enforcing the provisions of said resolution; admits that Exhibit "Q" is a copy of the complaint filed in said cause; admits that a restraining order was issued as prayed, and that issues were made, tried and submitted, and that this court upon consideration thereof dismissed the bill of said power company for the want of equity, holding that it had no lawful right to use the streets and public places of defendant for the purpose of generating and supplying current in the production of power and heat. Admits that thereafter an appeal was taken of said cause to the Circuit Court of Appeals for the Eighth District, and that the same was duly presented to that court, and that said court of appeals affirmed the decree of this court upon the ground that said power company had no lawful right to use the streets and public places of defendant in the transmission of electricity for any purpose; admits that an appeal was attempted to be prosecuted from the decision of said Circuit Court to the Supreme Court of the United States, and that such attempted appeal remains undisposed of in that court. Defendant denies that important facts essential to the proper determination of any rights which complainant has as trustee, were not set forth in the pleadings or developed in the trial or considered by the Court in arriving at its judgment. Admits that com-
 211 plainant was not a party in said action and did not participate, so far as defendant knows, in the prosecution of said action. In relation to the averments of said paragraph of said bill, defendant says that all the rights which said power company possessed and all the grounds and reasons which may be urged or claimed in respect to said power company's rights or the rights of complainant to use the streets or streets, alleys and public places in perpetuity or otherwise, were brought forward or urged in said cause; that all such matters were before this court and before the Circuit Court of Appeals, in the appellate proceedings, and every ground and every reason urged by the complainant in this cause were urged upon the attention of the court in said cause, but this court held there upon consideration of the claims of said power company, that it was not entitled under and by virtue of Ordinance No. 826, to generate and distribute electrical current for other than lighting purposes, and that no act of this defendant or its officials had enlarged the powers and grants under said ordinance or had estopped this defendant from interfering with the continued use of its streets by said company for said purposes. That the Circuit Court of Appeals affirmed the decree of this court, and upon the issues presented, which were the same as the issues presented by this bill, held and decided that the rights which had been given by Ordinance No. 826 had expired by limitation of time, and that said power company was occupying the streets and public places of defendant for the purpose

of distributing current for any and all purposes at sufferance, and that said Ordinance No. 826 did not grant to the grantors of said power company and its assigns, the perpetual right to occupy
212 the streets and public places of defendant for the purpose of distributing current for any purpose, and that the officials of defendant were without power and authority to grant to said power company or to any other company or person, a perpetual right to occupy its streets and public places for said purpose; that the judgments and decrees aforesaid have not been reversed or modified and that thereunder said power company is now and ever since the expiration of said Ordinance No. 826 has occupied the streets and public places of defendant at sufferance and at will. That said judgments, orders and decrees are binding precedents upon the rights of said power company and the rights of complainant company to use the streets and public places of defendant for the purpose of distributing current under said Ordinance No. 826 or otherwise, and announce the law and are binding precedents as to the right, power and authority of the officers of defendant in 1884 to grant to said power company or any other company or person the right, perpetually, to use its streets for said purposes. That said decisions became and are res adjudicata as to all the questions decided in said cause and as to all questions which might have been raised and decided in said cause, and that thereby and on account of said judgments, decrees and orders and the rules of law in relation to said matters therein announced, complainant is estopped from relitigating and retrying the questions tried in said cause or which might have been presented and tried in said cause.

For its further answer and defense to said bill, this defendant avers that whatever rights which said complainant company may represent or be entitled to assert as between it and said power
213 company, and whatever rights those whom the complainant company may represent, may have as between themselves and said power company because of their respective relations as trustee or as holder of the mortgage and bonds of said power company, yet the same and all the same give to said complainant company and those whom it represents, no rights or claims as to defendant, superior or greater than those of said power company, and that the rules of law, insofar as it is concerned, and the decisions of the court which are effective and binding on said power company, are equally effective and binding upon complainant company, and that every question relating to the use of the streets and public places of defendant which has been adjudicated in its favor and against said power company, bind with equal force and effectiveness complainant company and those whom it represents, and that complainant company is not entitled again to litigate the questions relating to the rights of said power company to use the streets and alleys of defendant under its claims of authority by said Ordinance No. 826 or the acts of the party in relation to powers granted or supposed to be granted thereby. That complainant in this cause is not seeking to enjoin defendant from interfering with its operation of the plant in question or the operation thereof by those whom it represents, but on the contrary

is seeking to interfere with defendant's proceeding against the right of said power company longer to use its streets and public places for said purposes, which claims and asserted rights so to do have all been adjudicated by the judgment and decree of this court and the judgment and decree of the said appellate court in favor of this defendant and against said power company.

214 That inasmuch as said complainant company acquires and holds whatever rights it may possess subject to the same limitations and rights as to this defendant as were possessed by said power company, it is without authority in law to maintain and prosecute this action, and that all the averments, statements and claims in said bill are irrelevant and immaterial and fail to state facts sufficient to constitute a cause of action against this defendant.

Having thus made full answer to all the matters and things contained in the bill, this defendant prays to be dismissed hence with its costs in this behalf incurred.

THE CITY OF OMAHA,
By JOHN A. RINE,
W. C. LAMBERT,
CLINTON BROME,
Its Attorneys.

Endorsed: Filed Nov. 10, 1911. Geo. H. Thummel, Clerk.

215 Thereupon afterwards, to-wit: On the 17th day of November, 1911, Replication was filed in said case, which said Replication is in words and figures following, to-wit:—

In the Circuit Court of the United States for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,
vs.
THE CITY OF OMAHA, Respondent.

Replication.

This replicant, Old Colony Trust Company, saving and reserving to itself all and all manner of advantages of exception which may be had and taken to the manifold errors, uncertainties and insufficiencies of the answer of the defendant, The City of Omaha, for replication thereunto saith that it doth and will aver, maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by the said defendant, and that the answer of the said defendant is very uncertain, evasive and insufficient in law to be replied unto by this replicant; without that, that any other matter or thing in the said answer contained, material or effectual in the law to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed, or avoided, traversed or denied, is

216 true; all which matters and things this replicant is ready to aver, maintain and prove as this honorable Court shall direct and humbly prays as in and by its said bill it hath already prayed.

WILLIAM D. McHUGH,
Solicitor for Complainant.

Endorsed: Filed Nov. 17, 1911. Geo. H. Thummel, Clerk.

217 Thereupon afterwards, to-wit: At the April 1912 Term of said Court, and on the 13th day of July, 1912, Decree was signed and filed in said case, and duly entered of record in Journal No. "1" of said Court, to-wit:

In the District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,
vs.
THE CITY OF OMAHA, Respondent.

Decree.

The above entitled cause having come duly on to be heard this 13th day of July, 1912, upon the bill of complaint of the complainant, the answer of the respondent, and the replication of the said complainant, and the evidence and the arguments of the counsel for the respective parties, was submitted to the Court; on consideration whereof, the Court finds that this cause is controlled and ruled by the decision of the Court of Appeals for this Circuit in the case of Omaha Electric Light and Power Co. vs. City of Omaha, et al, 179 Fed. 455. It is ordered, adjudged and decreed that the above entitled cause be, and the same hereby is, dismissed for want of equity at the cost of the said complainant, to be taxed, and for which execution may issue. To all of which the said complainant excepts.

Dated this 13th day of July, 1912.

By the Court:

WM. H. MUNGER, *Judge.*

Endorsed: Filed Jul. 13, 1912. R. C. Hoyt, Clerk.

218 Thereupon afterwards, to-wit: On the 13th day of July, 1912, Assignment of Errors was filed in said cause which said Assignment of Errors is in words and figures following, to-wit:

In the District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,

vs.

THE CITY OF OMAHA, Respondent.

Assignment of Errors.

Comes now Old Colony Trust Company, complainant in the above entitled cause, and files the following assignment of errors, upon which it will rely on its appeal from the decree, order and judgment entered herein on the 13th day of July, 1912, in the above entitled cause.

The United States District Court for the District of Nebraska, which entered the decree of dismissal of the above entitled cause, erred as follows:

(I) The Court erred in finding that this cause was controlled or ruled by the decision of the Court of Appeals for this Circuit in the case of Omaha Electric Light and Power Co. v. City of Omaha, et al., 179 Fed. 455.

(II) The Court erred in not entering a decree in the said cause in favor of the said complainant as prayed in the bill of complaint herein.

219 (III) Said Court erred in rendering and entering a decree dismissing said cause.

In order that the foregoing assignment of errors may be and appear of record said complainant presents the same to the Court and prays that such disposition be made thereof as is in accordance with the law and the Statutes of the United States in such cases made and provided; the said complainant prays a reversal of the said order and decree of dismissal made and entered by the said Court.

WILLIAM D. McHUGH,
Solicitor for Complainant.

Endorsed: Filed Jul. 13, 1912. R. C. Hoyt, Clerk.

220 Thereupon afterwards, to-wit: On the 13th day of July, 1912, Petition for Appeal was filed in said case, which said Petition for Appeal is in words and figures following, to-wit:—

In the District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,
vs.
THE CITY OF OMAHA, Respondent.

Petition for Appeal.

The above named complainant, Old Colony Trust Company, conceiving itself aggrieved by the final decree, order and judgment entered in the above entitled cause on July 13, 1912, hereby appeals from said final decree, order and judgment to the Supreme Court of the United States. And, the said complainant, Old Colony Trust Company, prays that this, its appeal, to the Supreme Court of the United States from said final decree, order and judgment, be allowed and that a transcript of the record and proceedings and papers, upon which said final decree, order and judgment was made, duly authenticated, may be sent to the said Supreme Court of the United States.

The said Old Colony Trust Company, complainant and appellant, has filed herein its assignment of errors, setting up separately
221 and particularly each error asserted and intended to be urged in the Supreme Court of the United States, upon said appeal. Your petitioner ever prays, etc.

OLD COLONY TRUST COMPANY,
Appellant.
By WILLIAM D. McHUGH, *Its Solicitor.*

Endorsed: Filed Jul. 13, 1912. R. C. Hoyt, Clerk.

222 Thereupon afterwards, to-wit: At the April 1912 Term of said Court, and on the 13th day of July, 1912, Order Allowing Appeal was signed and filed in said case, which said Order was duly entered of record in Journal No. "1" of said Court, to-wit:

In the District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,
vs.
THE CITY OF OMAHA, Respondent.

Order Allowing Appeal.

On the motion of William D. McHugh, solicitor for the complainant, and upon the filing and presentation of a petition for an appeal from the final decree, order and judgment entered herein on the 13th day of July, 1912, and an assignment of errors duly filed

herein, it is ordered that an appeal be, and the same is, allowed from said final decree, order and judgment to the Supreme Court of the United States.

And, it is further ordered that the amount of the bond upon the said appeal be, and the same hereby is, fixed at the sum of \$1000.00. It is further ordered that a certified transcript of the record of the proceedings herein be forthwith transmitted to the Supreme Court of the United States.

Dated this 13th day of July, 1912.

By the Court:

WM. H. MUNGER, *Judge.*

Endorsed: Filed Jul. 13, 1912. R. C. Hoyt, Clerk.

223 Thereupon afterwards, to-wit: On the 13th day of July, 1912, a Citation was signed in said case, and returned and filed, with acceptance of service endorsed thereon, the following of which is the original:—

224 In the District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,

vs.

THE CITY OF OMAHA, Respondent.

Citation.

The United States of America to The City of Omaha, Greeting:

You are hereby cited and admonished to be and appear in the Supreme Court of the United States Thirty (30) days from and after the day this citation bears date, pursuant to an appeal filed in the Clerk's Office of the District Court of the United States for the District of Nebraska, wherein Old Colony Trust Company is appellant and you are appellee, to show cause, if any there be, why the decree rendered against said appellant, as in said appeal mentioned, should not be corrected, and why speedy justice should not be done the parties in that behalf.

Witness, the Honorable William H. Munger, Judge of the District Court of the United States for the District of Nebraska, this 13th day of July, A. D., 1912.

WM. H. MUNGER,

United States District Judge for the District of Nebraska.

Due and proper service of the above and foregoing citation is hereby accepted and acknowledged this 13th day of July, 1912.

W. C. LAMBERT AND

BENJ. S. BARKER,

Solicitors for The City of Omaha, Defendant and Appellee.

[Endorsed:] 130 Z. In the District Court of the United States within and for the District of Nebraska, Omaha Division. Old Colony Trust Company, complainant, vs. The City of Omaha, respondent. Citation. William D. McHugh, Att'y for Complainant. Filed at — M. Jul- 13, 1912. R. C. Hoyt, Clerk.

225 Thereupon afterwards, to-wit: On the 13th day of July, 1912, Bond on Appeal was filed in said case, which said Bond is in words and figures following, to-wit:—

In the District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,

vs.

THE CITY OF OMAHA, Respondent.

Bond on Appeal.

Know all Men by these Presents:

That we, Old Colony Trust Company, a corporation as principal, and The Title Guaranty & Surety Company of Scranton, Pa., as surety are jointly and separately held *as* firmly bound unto the City of Omaha *on* the penal sum of \$1000.00 lawful money of the United States, well and truly to be paid.

The condition of the foregoing obligation is such that:

Whereas, the above bounden, Old Colony Trust Company, has appealed from the decree, order and judgment of the District Court of the United States for the District of Nebraska in that certain cause therein pending, wherein Old Colony Trust Company is complainant and The City of Omaha is defendant, and wherein the said District Court has rendered a decree dismissing said cause for want of equity, and adjudging that the said complainant pay the cost of said suit;

Now, therefore, if the said Old Colony Trust Company, appellant in said cause, shall prosecute its said appeal to effect, and
226 answer all costs if it fail to make good its plea, then the above obligation to be void; but otherwise remain in full force and virtue.

Witness our hands this 13th day of July, 1912.

[SEAL.]

OLD COLONY TRUST COMPANY,

By WILLIAM D. McHUGH, *Its Solicitor*.

THE TITLE GUARANTY & SURETY CO.,

By GUY H. CRAMER, *Attorney in Fact*.

The foregoing bond and surety are hereby approved this 13th day of July, 1912.

WM. H. MUNGER, *Judge*.

Endorsed: Filed Jul- 13, 1912. R. C. Hoyt, Clerk.

227 Thereupon afterwards, to-wit: On the 13th day of July, 1912, Præcipe for Transcript on Appeal was filed in said case, which said Præcipe is in words and figures following, to-wit:

In the District Court of the United States for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,
vs.

THE CITY OF OMAHA, Respondent.

Præcipe for Transcript on Appeal.

To the Clerk of said Court:

Please make transcript for the appeal on behalf of complainant in the above entitled cause including the pleadings, files and proceedings and evidence as follows:

- (1) Bill of complaint.
- (2) Subpœna and return.
- (3) Answer of defendant.
- (4) Replication of complainant.
- (5) All the evidence taken and filed in said cause.
- (6) Final decree.
- (7) Assignment of errors.
- (8) Petition for allowance of appeal.
- (9) Order allowing appeal.
- (10) Citation with acknowledgment of service.
- (11) Bond on appeal with approval thereof.

Please transmit the said transcript to the Supreme Court of the United States without delay.

WILLIAM D. McHUGH,
Solicitor for Old Colony Trust Company, Complainant.

Endorsed: Filed Jul- 13, 1912. R. C. Hoyt, Clerk.

228 *Index to Volume No. 1.*

	Page.
Bill in Equity.....	1
Subpœna in Chancery.....	178
Answer	180
Replication	215
Decree	217
Assignment of Errors.....	218
Petition for Appeal.....	220
Order allowing appeal.....	222
Citation	223
Bond on Appeal.....	225
Precipe for Transcript.....	227

229 UNITED STATES OF AMERICA,
District of Nebraska, Omaha Division, ss:

I, R. C. Hoyt, Clerk of the District Court of the United States within and for the District of Nebraska, hereby certify that pursuant to the order of court and in compliance with the Precipe, a copy of which is found on page 227 hereof, the foregoing record, consisting of three (3) volumes, marked Volume No. 1, Volume No. 2, and Volume No. 3, has been made and that the same is a true and faithful transcript of the pleadings and proceedings of record and on file in said court as mentioned in said precipe and as indicated in the indexes attached to each volume, and the same includes all the evidence offered and received in the case of Old Colony Trust Company vs. The City of Omaha, No. 130 Docket "Z." That a copy of the Citation duly certified has been lodged and remains in my office as such clerk.

Witness my hand and the seal of said Court at Omaha in said District this 2nd day of August, A. D. 1912.

[Seal United States District Court, District
of Nebraska, Omaha Division.]

R. C. HOYT, *Clerk.*

229½ Volume No. 2 of Transcript in the Case of Old Colony Trust Company v. The City of Omaha, No. 130, "Z," as Referred to in Certificate of Clerk Shown on Page 229 of Volume No. 1.

Certificate of clerk as to this volume shown on page 560 hereof.

Index to this Volume shown on pages 558 and 559.

230 Thereupon afterwards, to-wit: On the 8th day of May, 1912, Depositions of William Joseph Hammer and Axel Holme were filed in said case, which said Depositions are in words and figures following, to-wit:—

231 District Court of the United States for the District of Nebraska, Omaha Division. In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

The depositions of William Joseph Hammer and Axel Holme, taken before me, George H. Howard, a notary public, at the time and place therein stated, pursuant to the stipulation and agreement of the parties in the above-entitled cause, made and entered into as herein set forth.

[SEAL.]

GEORGE H. HOWARD,
Notary Public.

Dated at New York, N. Y., New York County, May 6, 1912.

232 District Court of the United States for the District of Nebraska, Omaha Division. In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

NEW YORK, April 29, 1912—2 p. m.

Appearances:

William D. McHugh, Esq., Counsel for the complainant.
William C. Lambert, Esq., Counsel for the defendant.

It is hereby stipulated and agreed by and between the parties to this action that the testimony of William Joseph Hammer, a witness called on behalf of the complainant, may be taken at the
233 Hotel Belmont, in the City of New York, on the 29th day of April, 1912, beginning at two p. m., all notice of the time and place of the taking of said deposition being waived by the parties.

It is further agreed that the deposition of the witness may be taken down in shorthand by James O'Neill and afterwards by him extended, the deposition to be taken before George H. Howard, a notary public, the signature of the witness to the deposition being hereby expressly waived.

It is further agreed that all objections as to the form and manner of the taking and the transmission of the deposition are hereby waived.

WILLIAM JOSEPH HAMMER, a witness called on behalf of the complainant, being duly sworn, testified as follows:

Direct examination by Mr. McHUGH:

Q. You may state your full name, please.

A. William Joseph Hammer.

Q. And your residence?

A. 153 West 46th Street, New York City.

Q. And your occupation?

A. Consulting electrical engineer.

234 Q. For how many years have you been identified with and familiar with the development of the methods for the utilization of electrical energy?

Mr. LAMBERT: The defendant, the City of Omaha, objects to the introduction of any testimony in this cause, for the reason that the questions involved in this litigation have been formerly adjudicated against the plaintiff in this cause, in the case of the Omaha Electric Light & Power Company against the City of Omaha in the Circuit Court of the State of Nebraska, and the same cause in the Circuit Court of Appeals in St. Louis; and second, because the plaintiff in this cause is estopped to relitigate the questions set up in its bill of complaint against the defendant, for the reason that it did not intervene or attempt to intervene in said cause in said courts and while the same was pending there, well knowing, during the time that said cause was pending, the nature of the questions presented in that case to be litigated.

A. About thirty-four years.

Q. Were you connected with Thomas A. Edison in his work of invention and development of appliances for the utilization of electrical energy?

A. I was.

235 Q. When did you begin that relationship?

A. In December, 1879.

Q. And how long were you identified with the Edison interests in that connection?

A. I have been directly and indirectly connected with Mr. Edison's interests in this country and in Europe from 1879 to 1890, when I opened my office as a consulting electrical engineer.

Q. In what capacities did you act during that period and during that connection, Mr. Hammer?

A. First as a general assistant in the laboratory under Mr. Edison; later as chief engineer of both the English and German Edison

companies for three years; subsequently in charge of Mr. Edison's interests and eight other Edison interests at the Franklin Institute electrical exhibition in 1884, the connection being that of confidential assistant to the President of the Edison Electric Light Company. Then for several years I was Chief Inspector of central stations of the Edison Electric Light Company; then as manager of the Boston Edison Company, and then on special expert work for the parent Edison company. In 1889, Mr. Edison sent me to Paris as his personal representative, and representing all of the Edison interests, at the international exposition of that year, and in various other ways I have been directly or indirectly connected
236 with his interests before that time and have also had, at various times, intimate relations with Mr. Edison and his work since.

Q. Where in 1879 and for some years after that did Mr. Edison carry on his work of developing the appliances for the utilization of electrical energy?

A. At Menlo Park, New Jersey.

Q. What is the fact, Mr. Hammer, as to whether on and prior to December, 1884, it was known that electrical energy could be utilized for the production of power and heat and for other purposes, as well as for the production of light?

A. It is a well known fact that at the inception of Mr. Edison's early work at Menlo Park, in connection with the electric light, that in the distribution of electrical energy, as contemplated by him, there were manifold uses to which it could be put, not merely for electric light but for power and heating and electroplating and other purposes.

Q. That was known prior to December, 1884?

A. Oh, long prior.

Q. What is the fact, Mr. Hammer, as to whether it was known, on and prior to December, 1884, how those various uses of electrical energy could be made available to a community?

A. It was Mr. Edison's intention to develop a complete system embracing a central station containing a generating apparatus, engines, boilers, dynamos, etc., and a system of feeders and mains, constituting a conductor system, to be laid
237 in the streets of a city and connected with the generating station, for the supplying of this district of a city, or a city as a whole, with electrical energy for various purposes.

Mr. LAMBERT: The defendant moves to strike out the answer of the witness as speculation on his part and hearsay and not a statement of fact and not responsive to the question.

Q. And the various purposes that you mention include light and power and heat and electroplating, I suppose?

A. Certainly.

Q. Mr. Hammer, prior to December, 1884, what is the fact as to whether Mr. Edison had invented a system of electric lighting?

A. Mr. Edison had developed and perfected such a system of electric lighting long prior to 1884.

Q. You may state whether, prior to December, 1884, there was

installed and in operation at Menlo Park, as mentioned, a plant utilized for the generation, distribution and utilization of electrical energy?

A. There was.

Q. I wish you would briefly describe that plant as it was in operation in Menlo Park prior to December, 1884.

238 A. Mr. Edison installed a plant at his Menlo Park laboratory for the generation and distribution of electrical energy, which consisted of a number of Edison dynamos, equipped with the necessary regulating and indicating apparatus, and a system of underground electrical conductors, passing through the streets about Menlo Park, and to this system of underground conductors were connected the various houses in Menlo Park and the lamp posts in the streets, and, at the same time, the lighting of the laboratory, machine shop and various other workshops was accomplished with the Edison incandescent light from the central station. Supplied also from the same central station and at the same time and through this same system of distribution were a considerable number of electric motors, electroplating baths, an electric railroad, which was at first one-third of a mile long and subsequently extended to about a mile and a half, and a second railroad, which was extended to a distance of three miles from the laboratory. The locomotive and passenger cars on these two railroads were lighted with incandescent lamps. The headlight of the locomotive was an electric lamp. The passenger car of the original train of 1880 and 1881 had an electric brake on it, supplied from the same source of supply as the other circuits already referred to; and upstairs in the laboratory,
239 on my first visit to Menlo Park in 1879, I saw an electric motor for operating a couple of sewing machines, and which was also used to operate a lathe; and in 1880 I used the current from this same system of distribution of electrical energy for operating a telegraphic system which I had equipped, which consisted of a large glass fish globe, containing a red solution, in which an Edison lamp was placed and in the circuit of which I had interpolated a telegraph key, so that I could telegraph in this way to the telegraph operator at the Pennsylvania railroad station, three-quarters of a mile away.

A circuit was also run from the laboratory plant to the first electric lamp factory ever established, nearly a mile away from the laboratory, in the old Edison electric pen works. Over ten horsepower was transmitted over this line and supplied the lighting for the lamp factory and adjacent buildings and also supplied the power for a number of electric motors—I believe there were seven in all—which I installed to operate various devices in the lamp factory.

I put in the first one hundred pumps for exhausting the lamps in this lamp factory, and was appointed the first electrician of this, the first electric incandescent lamp factory. I installed these
240 electric motors to run a blower for the carbonizing furnaces for rotating the annealing machines used in the manufacture of the lamp, a saw for cutting up the bamboo used at that time for

the filaments of the lamp, a large Archimedes pump used in elevating the mercury to a reservoir, from which the mercury flowed through the hundreds of glass vacuum pumps used for exhausting the air from the incandescent lamps.

For a considerable period, this lamp factory was entirely operated, not only for lighting but for power purposes, entirely by electricity sent from the central station, about a mile away, which was at the laboratory. I wish also to state that a large number of electroplating vats were supplied with electrical energy at this lamp factory for the purpose of plating copper around the shank of the carbon filament, where it was attached to the leading-in wire of the incandescent lamp, this copper plating taking the place of the expensive platinum vice-like clamps formerly employed. There were dozens of these vats for electroplating purposes.

I also used this electrical energy for the purpose of insuring continuity in the supply of gas at the lamp factory, which gas was used for glass-blowing purposes and for the gas furnaces used in
241 carbonizing the lamp filaments. On a number of occasions this local gas plant had ceased operating, due to the carelessness of the watchman, who neglected to wind up the large stone weight which controlled the gasometer. I fixed an apparatus by which, when this weight came near the floor and the supply of gas was low, electrical energy supplied from the central station passed through an incandescent lamp in series with a huge gong, which was immediately rung, and the sound of which could be heard all over the factory. Prior to my fitting up this device, the stoppage of the gas caused losses a number of times of from two or three hundred to six hundred dollars. There were no such accidents after this device was employed.

I might also state that arc lamps were supplied from this circuit. I remember assisting in some experiments in which an arc lamp was operated from this circuit for the purpose of focusing the heat by means of a lens upon the clamps of the incandescent lamp, to drive out the occluded gases in the platinum clamps, which it was feared affected the vacuum of the lamps. There were other illustrations in which the electrical energy supplied entirely from one source of distribution was utilized in these various practical and commercial ways.

242 Q. During what years were these things being done in Menlo Park, as you have testified to?

A. These things, of which I have a positive and personal knowledge and a personal connection therewith, occurred from January, 1880, to the fall of 1881, when I was sent to England by Mr. Edison.

Q. Before you were sent to London, did you have anything to do with the work of preparing for the installation of the first central plant in New York City designed to generate and distribute electrical energy for commercial purposes?

A. Yes.

Q. What did you do in that connection, Mr. Hammer?

A. By Mr. Edison's direction, I visited the New York City

authorities and secured six maps of the lower portion of New York City. These maps were on four different scales, and I arranged a large map, which I laid out on several of the laboratory tables, and this map was made on one scale and from the data furnished me by the New York City authorities and from the maps which they gave me. This was prepared with the very greatest accuracy and care. On this map I laid out a system of feeders and mains, constituting a complete distribution system of electrical energy, which it was proposed to instal with underground conductors in the lower part

of the City of New York. I made the calculations on this
243 first distribution under the supervision of Mr. Francis R. Upton, Mr. Edison's chief mathematician and physicist and one of his two chief associates. A number of canvassers were employed to go through the lower part of New York City at all hours of the day and night and make careful observations and records of any lights—gas, kerosene, electric or other—which they might observe in this district, and also to observe and record the uses of power in this district, such as, for instance, the hoists, which were very common at one time in the lower part of New York City, which were operated by horse or mule power, these animals being located permanently in a loft in a building; and I personally have seen various of these installations.

These canvassers, to whom I have referred were directed by Mr. Edison to report to me, and I took this data which they secured and used it as a basis for estimating the amount of electrical energy which this district in the lower part of New York City would require, and also from this data made the necessary calculations and estimates. A blueprint of this original distribution is, I believe, to-day in the possession of the New York Edison Company and is considered one of their most valuable things among their archives, and it represents the first plan ever made for such a distribu-
244 tion of electrical energy as contemplated and as carried out by Mr. Edison.

Q. In what year did you do this work and prepare the plans for this system, Mr. Hammer?

A. Before I went abroad in the fall of 1881 and from January, 1880, until that time, this being one of the various duties I had at the laboratory.

Q. So, then, as a matter of fact, when the first plans were drawn for the first New York City plant to be established for the commercial generation and distribution of electrical energy, the utilization of that energy for power purposes was contemplated and provided for, as well as its use for the production of light? That is the fact, is it?

A. Yes, and also for the general utilization of this electrical energy. I have already specified the many and various applications of electrical energy at Menlo Park prior to this time.

Q. Mr. Hammer, you have testified that Mr. Edison sent you to Europe in the fall of 1881. Did you go to London representing Mr. Edison?

A. I was sent to London by Mr. Edison as the chief assistant of

Mr. Edward H. Johnson, who was Mr. Edison's personal representative to England.

Q. In England, did you have anything to do with the installation of a plant for the generation and distribution of electrical
245 energy?

A. I did.

Q. When was that plant installed and where in London?

A. It was installed in the fall and winter of 1881 at 57 Holborn Viaduct, London, England.

Q. That was the first plant ever installed anywhere in the world for the generation and distribution commercially in a city of electrical energy, wasn't it?

A. It was. The current was turned on on the 12th of January, 1882. In the central station in New York of the Edison Electric Illuminating Company, the current was turned on nearly a year thereafter.

Q. Mr. Hammer, in connection with the plant that was installed, as you have testified to, operated in London, did you utilize any motors and did you utilize the electrical energy generated and distributed in this plant for the production of power, and did you solicit customers for the use of your current for the production of power and other commercial purposes, as well as light, and, if so, briefly describe how.

A. I might state that I was the chief engineer of the English Edison company, and the plant consisted of between three and four thousand incandescent lamps, supplied from huge dynamos and, in addition to these, lamps which were supplied to the neighboring
246 houses, to the neighboring streets and bridges, to Her Majesty's general post office and telegraph departments, three-quarters of a mile away, two railway stations, a huge church, etc. Electricity was also used for other purposes. I used an Edison dynamo, used as an electric motor—as Siemens electric motor which I had purchased in London—and, as illustrating the facility with which electricity could be utilized for power purposes and the magnitude of the uses to which these motors could be put, I will say that I ran for some time one of the huge Edison dynamos as a motor from the other. These dynamos weighed from twenty-three to twenty-five tons, the revolving part, the armature, weighing about six tons; and I ran one of these dynamos as an electric motor with perfect facility and as easily as fan motors are run to-day, and run from the same supply and at the same time that electric lights were being supplied.

I also secured two different arc lamps from the Seimens Company and operated them in series with a resistance from the incandescent lighting circuit. I also assisted Dr. John Hopkinson, who had been retained in a special consulting capacity, in some experiments with electric recording meters, which he had devised, and which operated by electric motors, these motors and the meter
247 itself being attached to the central distribution system.

In the street lights, one of my assistants, under my direction, placed an electro-magnetic device, so that, if one of

the street lights should happen to be extinguished, a second one was immediately thrown in circuit. This was to meet the criticism of the gas company that there was some possible unreliability in using the incandescent lamps in the street, as the filaments might burn out. These electro-magnetic devices for switching on the new lamps were operated from the same source of supply or system of electrical energy.

One of the first storage batteries ever made by Faure was sent to the Holborn Viaduct station, and I rigged up two Edison dynamos, one of them, however, being connected as a motor—and naturally any dynamo will run as a motor—and in this way I generated the electricity and charged these Faure storage batteries. It was our intention at that time to utilize the storage batteries on the electrical system of distribution which is now so common, and the application of these storage batteries in this way was only one of the various methods of applying and utilizing the electrical energy from the central station. So that we not only contemplated the supplying of light but also of power and electricity for other purposes.

248 I remember at the time I talked with Sir William Preece, chief electrician of Her Majesty's Posts and Telegraphs, regarding the utilization of the electricity from our station in connection with some of the telegraphic apparatus in his department. This, however, was not installed at that time but was considered. *

Q. What was the name of the company that operated this central station plant at Holborn Viaduct, London?

A. The Edison Electric Light Company.

Q. During what years did you remain with the Edison Electric Light Company at Holborn Viaduct station, London, and carry on the operations as you have testified?

A. During a portion of 1881, all of 1882 and a portion of 1883. I had been offered the posts of chief engineer of both the French and German Edison companies, and accepted the latter post, and in 1883 I went to Germany and became chief engineer of the German Edison Electric Light Company.

Q. When you went to Germany in 1883, in connection with the German Edison Electric Light Company, did you see electrical energy utilized for commercial purposes other than of light? Was there any use of electrical energy there at that time for power purposes?

A. Yes. I rode on the Siemens electric railroad in the Zoological Gardens in Berlin, shortly after my arrival, and also visited the Siemens electric railroad at Lichterfelde, Germany; and I 249 had, prior to this time, seen the Siemens electric railroad in operation at the Paris electrical exhibition of 1881, which I spent several weeks at on my way from New York to London. I rode on the Siemens railroad at Paris, and I might also state that at the Paris exposition I saw many electric motors in operation, at the first electrical exposition ever held, which was in Paris in 1881. Griscom showed his double induction motor at the Paris exposition. Gramme and Siemens had electrical motors there. Marcel Deprez

had a large number of electric motors in operation. My impression is there were some twenty of them, all supplied from one station.

Q. That was at the Paris exposition of 1881?

A. Yes; and this was prior to my taking up my work as chief engineer of the English Edison company. In Berlin, I erected the first flashing electrical sign which was ever built, placing the same on the top of the Edison central station in the Health Exposition in Berlin, which plant I installed. This was late in 1883. This flashing sign was operated by an electric motor driving a commutating switch, or what is known to-day as a "flasher". I might state incidentally that previously while in London I had built an electric sign operated by a huge spring switch and placed the same over the organ in the concert hall at the Crystal Palace, where I installed a plant of over two thousand Edison lamps, using some twelve Edison dynamos. This sign, as did the sign in Berlin, carried the name "Edison" in electric lamps.

The plant which I installed in the Crystal Palace of twelve Edison dynamos I constructed simultaneously with the work I was doing at the Holborn Viaduct central station, in London. The Holborn Viaduct central station was started up on the 12th of January, 1882, and the Crystal Palace plant of twelve Edison dynamos was started up on the 14th of February, 1882.

I might also state that the first set of Faure storage batteries that was sent to England from France was consigned to my care by Mr. Faure at the Crystal Palace Exposition of 1882. I might also state—and this is important—that Mr. Edison's entire exhibit from the Paris electrical exposition of 1881 I installed in the Crystal Palace electrical exposition of 1882, in connection with the installation of the twelve Edison dynamos and over two thousand incandescent lamps.

Q. Were electrical motors utilizing electrical energy for power purposes exhibited in the Crystal Palace exposition of 1882, as well as in Paris of 1881?

A. There were.

Q. After your work in Germany for the German Edison Electric Light Company, which you have mentioned, you came back to America?

A. Yes.

Q. And what did you do immediately upon returning to this country?

A. Before I had passed my baggage through the Custom House, I was sent by Mr. Edison to the Franklin Institute electrical exposition held in Philadelphia in September, 1884, where I was given charge of Mr. Edison's personal exhibit in his interests and that of eight other Edison interests, the intention being to organize all of these exhibits into one general Edison exhibit, which I did.

Q. This exposition and its exhibits are quite important, and I wish you would describe the Edison exhibit in the Franklin Electric Institute Exposition in Philadelphia in September, 1884.

A. The Edison exhibit consisted of various of Mr. Edison's tele-

graphic, telephonic, electric lighting and other inventions, his ore separator, etc.

Q. Was there at that exposition an exhibit of what was known as the Edison system of electric lighting?

A. There was.

Q. I wish you would describe what was comprised within that exhibit of the Edison system of electric lighting?

A. A large number of incandescent lamps were supplied
252 from an Edison station, and the various appurtenances for indicating and regulating and measuring the electricity were shown, and one of the huge steam direct-connected generators, such as were employed in Paris, London and New York, was shown in operation, and various electric motors; and among other things I constructed a huge flashing tower of light, made out of Edison incandescent lamps, which, by means of a commutator, was given the appearance of revolving, by switching the lamps on in a spiral form in this tower. On the tower Mr. Edison's name was spelt in electric lamps, which would flash letter by letter and all together. This was operated, as were the lights and motors, from the central system of distribution. Electricity was also used in connection with Mr. Edison's huge ore separator, which was installed at the exhibition; and, as I have already stated, various other telegraphic, telephonic and other inventions of Mr. Edison were exhibited in the various Edison exhibits.

Q. Were these motors shown in operation?

A. Quite a number of motors were shown of different types, and certain of them were operated. Mr. Sprague, who had been an officer in the navy, had designed a very suitable type of electric
253 motor for the Edison system of distribution, and these motors of various types were shown, operated from the Edison circuit. I believe one of these motors operated a loom, and, in addition to these motors, electric motors were also used throughout the exposition for various purposes.

Q. So the Edison system of electric lighting, as displayed at that exposition in Philadelphia of 1884, included, as a part of its functions, motors in operation?

A. Yes.

Q. Were there other systems of electric lighting beside Mr. Edison's on exhibition at that institute at Philadelphia in September, 1884?

A. There were; quite a number.

Q. Did Thompson-Houston have one?

A. Yes, sir.

Q. You may state what the fact is as to whether, as a part of the Thompson-Houston system of electric lighting, motors were exhibited in operation?

A. They were.

Q. Was there a system of electric lighting known as the Brush system?

A. There was.

Q. And was there an exhibit of that system of electric lighting—the Brush?

A. There was.

Q. And did that comprehend, as a part of its function, a motor in operation?

A. It did.

Q. And was there another system known as the Weston
254 system of lighting?

A. There was.

Q. And was there an exhibit of that system in that institute in September, 1884?

A. Yes.

Q. And did that comprehend, as a part of its function, and in the exhibit, a motor in operation?

A. It did.

Q. And these systems that I have mentioned, taking the four—the Edison system, the Brush system, the Thompson-Houston system and the Western system—were known and spoken of as systems of electric lighting?

A. They were.

Q. And each comprehended and exhibited a motor as a part of its function?

A. It did, yes.

Q. At this institute in Philadelphia, in addition to the motors, as shown by these exhibitors as part of their separate systems of electric lighting, were there special exhibits of electric motors?

A. Yes. The Griscot double induction motor was shown by many illustrations, driving sewing machines, women and men being seated at these machines, showing the application of the electric power. There was also an electric railroad, the Bidwell system, which operated adjacent to the main building of the exhibition, on a short length of track, the electricity not only supplying power to the road but also lighting the car.

William Wallace, one of the pioneer electricians of America,
255 ica, had an exhibit of various machines, among which was a machine which had two windings, and one of which would operate as an electric motor, and the other winding of wire would act as a generator for generating electricity. There were other electric motors shown.

Q. Mr. Hammer, I wish you would tell us what the fact is as to whether this electrical exposition conducted in September, 1884, at Philadelphia, by the Franklin Institute, was the subject of much general interest and what the fact is as to the number of visitors and the interest displayed.

A. There was very general interest in this exposition throughout the whole country and abroad. In fact, I can say, after having visited practically all of the electrical expositions, from the original one at Paris in 1881, that the two expositions which attracted the greatest amount of attention were the original one at Paris in 1881 and the one at the Franklin Institute in 1884.

Q. And how about the press, the magazines and scientific papers

—did they pay attention to and take note of this exposition and the exhibits?

A. The scientific and engineering and daily press gave a very large amount of space to the exposition. Special delegations
256 came to the exposition to make a study of the various systems of electrical distribution, and the various colleges and schools sent delegations of their students there. I frequently talked with these various delegations and took them about the exposition, explaining various details to them.

Q. You have testified to the operations while you were present and of which you had personal knowledge and in which you had a part in Menlo Park prior to your going to London. I wish you would tell whether or not those operations were visited by the public and commented on by the press and, if so, to what extent.

A. They were very extensively commented upon by the daily and scientific and engineering press, certain papers even giving entire pages to the details of Mr. Edison's system and the work going on in Menlo Park. The Pennsylvania railroad ran special trains to Menlo Park. I have knowledge of days in which as many as five thousand people visited Menlo Park in one day. I know of occasions when the entire work at Menlo Park has been suspended because of the rush of visitors, and it was necessary to shore up the main laboratory building with supports and finally to place various of Mr. Edison's assistants at the various buildings and compel the
257 people to wait their turn to enter the laboratory. Interest at that time was the greatest that I have ever known in my experience in connection with the development of any industry.

Q. After the Philadelphia exposition, you took up the work of inspecting and reporting upon the central stations for the Edison company?

A. Immediately after the Franklin Institute electrical exposition, I became the confidential assistant of the President of the Edison Electric Light Company, which was the parent Edison company, and shortly thereafter was appointed by the president, Mr. Edward H. Johnson, as chief inspector of central stations, which position I held for two years or more.

Q. The Edison Electric Light Company was the parent company, you say. That company owned and controlled various patents or inventions of Mr. Edison for the generation, distribution and utilization of electrical energy. That company was interested as a stockholder and otherwise with various local companies which had installed central plants and distributing systems?

A. Known as the Edison system; yes.

Q. These local companies were called the Edison Electric Illuminating companies or Electric Light companies of such a town?

A. Yes, that is the fact.

Q. Your inspection work consisted in inspecting the central stations—that is, inspecting all the plants of the local
258 companies installed for the generation and distribution of electrical energy—and that kept up two years?

A. Yes.

Q. In that inspection, without going into detail, which is not essential, you necessarily observed the work that was being done by these local companies, did you not?

A. I did.

Q. And what is the fact as to whether all these companies continued along the line you had provided in the first distribution system in New York for supplying electricity for all commercial purposes for which there was any demand?

A. All of these plants had in contemplation using the electricity for various purposes besides that of electric lighting, and they one and all began the installation of electric motors, first to a considerable degree for electric fans and for elevators, printing presses and various other purposes, and the application of electrical energy to electric signs, and more recently to electric cooking, electric heating and other purposes.

Q. Mr. Hammer, your knowledge and experience of the work of the companies engaged in the function of generating and distributing electricity dates from the very beginning. I want to ask you whether, as a matter of fact, in December, 1884, and prior thereto, the phrase "general electric light business" had a distinct and well-understood meaning?

Mr. LAMBERT: That is objected to as calling for a speculation and a conclusion of the witness; for the further reason that there is no proper foundation laid, and for the further reason that no place is stated in the question as to the meaning inquired of these terms; as incompetent, irrelevant and immaterial.

A. It had.

Q. You may state what that meaning was.

Mr. LAMBERT: That is objected to as calling for a speculation and a conclusion of the witness; for the further reason that there is no proper foundation laid, and for the further reason that no place is stated in the question as to the meaning inquired of these terms; as incompetent, irrelevant and immaterial.

A. It comprised, in my opinion, the generation, distribution and utilization of electrical energy for various purposes for which this electrical energy could be supplied.

Mr. LAMBERT: I move to strike from the record the answer of the witness, for the reason that his answer shows that it is mere conjecture on his part, not a statement of a fact, not confined to or connected with the locality or the controversy here in question; as immaterial and irrelevant.

Q. You may state what the fact is, Mr. Hammer, as to whether the function of generating and distributing electrical energy from a central plant, to be utilized by the community for any purpose to which it was adapted, was a subject of frequent mention on and prior to December, 1884.

A. It was.

Q. And in the mention of that function, it is a fact that it was commonly and generally spoken of as the "electric light business"?

A. Yes, that is so.

Cross-examination by Mr. LAMBERT:

Q. Do you have any interest in the result of this controversy in any way?

A. No, sir; no further than in my professional capacity.

Q. You have prepared to give your testimony at the request of the plaintiff in this case?

A. At the request of the counsel.

Q. And the plaintiff is paying you for the time you employ in this case?

A. I hope they will.

261 Q. At least, that is the intent and purpose.

A. Yes, sir.

Q. Before these central energy plants came into existence, of course electricity, in its manifestations in many forms, was known?

A. Yes, sir; fairly well known.

Q. This was simply one of the means of adapting it to certain controllable purposes, if I am allowed to put it that way.

A. What do you mean by "one of the means"?

Q. Central energy plants.

A. Yes, sir.

Q. You speak of having some business dealings in relation to a department in England. Of course, they were using electricity in connection with their posts before that time?

— Yes, sir.

Q. And what was the means by which it was developed there?

A. At that time, batteries were employed, but subsequently electrical generators were used.

Q. That source of supply, however, was never devoted to lighting purposes?

A. No, sir.

Q. Of course, lighting, heating and power and so forth——

A. But the buildings of the telegraph department and post office department were supplied from the Edison plant, not from the post office plant itself.

Q. That is after you got there?

A. Yes, sir.

Q. But prior to that time?

A. Gas was employed.

262 Q. Power, light and heat and those various manifestations of the source is simply translating the energy into the different forms, isn't it?

A. The energy can appear or be transformed into those different forms.

Q. Just a variance in the devices that are used for that purpose.

A. Yes; by having proper devices for utilizing the energy for that specific purpose.

Q. The same current, in other words, can appear as light, power

or heat, providing the proper device is used to make it appear in that form?

A. Yes, sir.

Q. The first use for commercial purposes to which electricity was put was that of lighting, was it not, to any considerable extent?

A. Well, prior to the lighting, of course, there was the application to telegraphy and also electroplating of metals to some extent. and prior to Edison's work, of course, the telephone had been very largely developed.

Q. But speaking of currents of any considerable size, its employment was first as light?

A. Yes.

Q. Then what, in order of time, was the next pronounced development, Mr. Hammer, if it took any particular form like that—power or heat?

A. Well, prior to the time that Mr. Edison developed his system, the largest dynamo for any purpose whatsoever could probably be lifted by a man or two, and Mr. Edison has said to me that the greatest thing that he ever accomplished was the construction of his huge, direct-connected dynamo, weighing some twenty-three to twenty-five tons. This was the unit first employed in Edison's system of distribution of electrical energy in the New York station and the London station.

Q. I don't know that I make myself clear, because these terms and so forth are not familiar, but the idea that I am trying to get at is this: The first useful commercial purpose for which centrally-developed electrical energy was employed was electric lighting, was it not?

A. Undoubtedly the greater portion of the energy which was supplied from these early stations was utilized in electric lighting, but, as my previous testimony goes to show, from the very first there was this application, this contemplation of utilization of electrical energy for power and other purposes; and, in the initial installation at Menlo Park the electrical energy was thus supplied for power, lighting and other purposes, as I have explained.

Q. But the extensive use of it for power and heating purposes has followed the more or less extensive use of it for lighting purposes?

A. I couldn't say that, because at Menlo Park, as I have already stated, many motors were used, even an electric railroad that carried thousands of people there. As I said before, as many as five thousand people visited Menlo Park in one day. That was operated from the identical plant that supplied seven or eight hundred electric lamps around Menlo Park in the buildings and streets, and at the same time, as you remember, the first Edison lamp factory was operated by electric power, nearly a mile away from the same central station; and then there were the other applications, such as electric brakes and arc lamps and motors and electroplating vats—a large electroplating outfit.

Q. Was that an experimental road?

A. That was an experimental road to this extent—that it was a

practical railroad, but the trolley road was developed, of course, subsequently. But Mr. Edison ran his first railroad, which was at first one-third of a mile in length and then later a mile and a half and then three miles from the laboratory, but both of these railroads were operated from the same plant at Menlo Park.

Q. But built and operated for the purpose of demonstrating the application of electrical energy?

A. Yes. At the same time, the cars were lighted by electricity. At that time, Mr. Edison was negotiating with the elevated railroad people here and with Mr. Villard, president of the Northern
265 Pacific Railroad, for the installation of this electric system of his. He sold certain of the patent rights to people abroad. He was also negotiating with some parties in South America. Mr. Edison's work at Menlo Park covered work in various lines. He had developed there his phonograph, the telephone, his electric light and electric railroad and his ore-separating device and various other inventions, which he developed, having hundreds of assistants there and workmen in his employ.

Q. So visitors visiting that plant would see demonstrated the application of energy to lighting purposes and power purposes and heating purposes?

A. Yes. The people who came there, as I have already stated, sometimes as many as five thousand people in one day, saw the electric light throughout Menlo Park, the electric railroad, the electric motor in the laboratory and various other applications of electricity there, and all from one central station, one distributing plant.

Q. How many customers or about how many customers for lighting purposes did the plant have there in Menlo Park at the times you are speaking of, or was that simply a demonstrating plant?

A. That plant in Menlo Park was installed to perfect the details of Edison's complete system of electrical distribution, and the lighting in the various buildings was free. Then Mr. Edison
265 secured permission from the authorities of New York—the city authorities—to install his system in New York City, which was immediately done.

Q. That is the one to which you have already testified?

A. Yes.

(By consent, the examination of the witness is suspended.)

It is hereby stipulated and agreed by and between the parties to this action that the testimony of Axel Holme, a witness called on behalf of the complainant, may be taken at the Hotel Belmont, in the City of New York, on the 29th day of April, 1912, beginning at two p. m., all notice of the time and place of the taking of said deposition being waived by the parties.

It is further agreed that the deposition of the witness may be taken down in shorthand by James O'Neill, and afterwards by him extended, the deposition to be taken before George H. Howard, a notary public, the signature of the witness to the deposition being hereby expressly waived.

267 It is further agreed that all objections as to the form and manner of the taking and the transmission of the deposition are hereby waived.

AXEL HOLME, a witness called on behalf of the complainant, being duly sworn, testified as follows:

Direct examination by Mr. McHUGH:

Q. You are in the employ of the Edison Electric Illuminating Company of New York?

A. No—the New York Edison Company, the successor of the New York Edison Illuminating Company.

Q. And you are in the auditing department of that company?

A. Yes, sir.

Q. And as a part of the records of the auditing department is the list of customers that the company had in 1884?

A. Yes, sir.

Q. Have you examined the list which I hand you (handing a paper to the witness) and compared it with the books of the company?

A. It is a copy of the record in the Customers' Ledger for that year.

Q. You know that this is a correct copy from the books?

A. Yes.

Mr. McHUGH: I offer it in evidence.

268 (Received in evidence and marked Complainant's Exhibit 1.)

Complainant's Exhibit 1 is as follows:

"Fan-motor Service Supplied During 1884 to Customers by the Edison Electric Illuminating Company of New York.

D. McGonagil, 42 Nassau Street. Installed July 1, 1884—one motor.

N. Y. Mining & Petroleum Exchange, 60 Broadway. Installed July 1, 1884—two motors.

H. Richmond, 114 Wall Street. Installed July 1, 1884—one motor.

A. Darius, 196 Broadway. Installed July 1, 1884—one motor.

J. Deichelmann, 62 Ann Street. Installed July 1, 1884—one motor.

P. M. Ohmeis & Company, 146 Fulton Street. Installed July 19, 1884—two motors.

W. L. Lustig, 44½ Maiden Lane. Installed July 7, 1884—two motors.

E. P. Peysey, 123 Fulton Street. Installed July 1, 1884—one motor.

Drexel Morgan & Company, 23 Wall Street. Installed July 10, 1884—two motors.

Winslow, Lanier & Company, 26 Nassau Street. Installed July 11, 1884—two motors.

Kidder, Peabody & Company, 1 Nassau Street. Installed July 14, 1884—two motors.

Spencer, Trask & Company, 14 Broad Street. Installed July 14, 1884—one motor.

Bank of Montreal, 59 Wall Street. Installed August 2, 1884—one motor.

269 "Boston Marine Insurance Company, 43 Wall Street. Installed August 5, 1884—one motor.

Schafer Brothers, 29 Wall Street. Installed August 5, 1884—one motor.

J. N. Ce Ballos & Company, 69 Wall Street. Installed August 7, 1884—one motor.

Mermilye & Company, 16 Nassau Street. Installed August 7, 1884—one motor.

London & Lancashire Insurance Company, 46 Pine Street. Installed August 8, 1884—one motor.

Lancashire Insurance Company, 40 Pine Street. Installed August 8, 1884—one motor.

Zimmerman & Forshay, 19 Wall Street. Installed August 15, 1884—one motor.

Third National Bank, 20 Nassau Street. Installed August 21, 1884—one motor.

H. Moquin, 147 Fulton Street. Installed August 23, 1884—two motors.

Howard & Morse, 45 Fulton Street. Installed August 8, 1884—one motor.

New York Stock Exchange, 12 Wall Street. Installed August 26, 1884—two motors.

Grosbeck & Schley, 26 Broad Street. Installed August 5, 1884—two motors.

August Belmont, 19 Nassau Street. Installed September 12, 1884—one motor.

New York Mutual Life Insurance Company, (No address given). Installed September 10, 1884—three motors."

Cross-examination by Mr. LAMBERT:

270 Q. Did you yourself make the items that appear on Exhibit 1 from the book?

A. That particular memorandum?

Q. Yes.

A. It was prepared by the secretary or assistant secretary to the manager, but it has been checked since by us. We have several more copies of the same thing.

Q. Have you yourself checked it so as to be able to say it is correct as shown on the books?

A. True.

Q. And does that contain a complete statement of the various customers using electrical energy for power purposes?

A. No. I will say that that is a statement from the book, the

beginning of the book, giving a list of motor customers. That current was not metered separately from the other current, so that whatever revenue was derived from the use of those motors no one can tell.

Q. That I was not asking. So far as you know, does this contain a complete list of your power-using customers of that date or year?

A. Yes.

Q. No separate measure to them or separate charge was made on account of the use of the energy for one purpose rather than another?

A. Not so far as I know.

Q. Do you know whether or not any of the customers on this list used power separately without the use of light?

A. I can't tell.

Q. Were you then, at that date, connected with the company?

A. I was not.

Q. Do you know how many users of light the company had during that year?

A. Somewheres in the two hundreds.

Q. Of light?

A. Of light. Of course, it is impossible to say light—how many users of electricity we had at that time; somewheres in the two hundreds. I can say absolutely by counting the customers on the ledger that we still have. I did not do that. I have gone over that and from my own going-over our customers' record from year to year, that is roughly what we had. I know for a fact we had 392 in 1887—I had occasion to look that up recently—with an installation of thirteen thousand lights.

Q. At that time, were you furnishing lights to private residences as well as business places?

A. No; nothing but business localities downtown.

Q. Just simply in the downtown district?

A. Just simply in the downtown district.

Q. Some of those two hundred, however, used many lamps?

A. Yes.

Q. Such as theatres and places of that sort?

A. There were no theatres. There were restaurants, like Moquin's. My knowledge would come from the size of the bills. Some of them were considerable.

Q. Were any of them used for street arc lighting at that time?

A. I am quite sure not, not by the Edison company, because we didn't begin street lighting until shortly before the Columbus celebration here on Fifth Avenue. From the time I came with the company in 1889 until 1892, there was no street lighting by the Edison company, and probably not before that time, either.

Q. Do you have any personal knowledge of the correctness of the ledger account from which you made Exhibit 1? Have you ever checked that back to ascertain the correctness of that account?

A. What do you mean by the correctness of it?

Q. Whether what appears on there in fact existed at the time?

A. As revenue, it certainly did.

Q. Simply as revenue?

A. Simply as revenue.

Q. You say no separate account was kept for lighting and power purposes?

A. No.

Q. How do you determine or do you know how it is determined that a motor was used where you have motors noted here?

A. By the record which we came across in that ledger, from which that is copied; simply a list of motor customers; rather, that fact is established as a secondary operation from locating the bills for motors purchased. In other words, we found on our ledgers a property account of motors, and, as we do a great deal of checking-up of property accounts, and that is one of my functions down there, it interested me to find what these motors consisted of, what property exists now in that motor account. Then I located the purchase records, the payments made for motors, and discovered that they were fan motors. Then it was interesting to find out what happened to them, and the result is going to the Customers' Ledger. These have ever since been carried as a property record on the Edison company's books.

MR. LAMBERT: Waiving any objection as to the production of the original and any objection as to the items of Exhibit 1 being copies rather than the original, and waiving the production of the original, the defendant nevertheless objects to the introduction of Exhibit 1, for the reason that it is irrelevant and immaterial.

274 WILLIAM JOSEPH HAMMER (cross-examination resumed).

By MR. LAMBERT:

Q. After the exhibitions and demonstrations that you have recited in your testimony here, the application of electric current to lighting purposes and to the various purposes that you have mentioned developed very rapidly and its commercial use became very extensive, didn't it? That is to say, plants were installed all over the country very soon after it became an ascertained fact that it had certain definite uses to which it could be applied, such as light, power and heat.

A. There was very great interest in this whole subject at the time the enormous crowds were visiting Menlo Park, but naturally it took some time to secure a widespread introduction of these systems of distribution. But that followed very rapidly after the demonstration Mr. Edison made at Menlo Park. It was the demonstration at Menlo Park which so satisfied the Board of Aldermen of the commercial character of Edison's system which caused them to give Mr. Edison permission to make the large installation in New York City, and this was followed by the many other Edison electric light companies about the country; and there was a similar development in Europe and other places.

275 Q. Can you state now approximately the number of Edison electric light installations that were made, say between 1884 and 1888, throughout this country?

A. I don't believe that I could give this with great accuracy, although information of this character is available by applying to such organizations as the National Electric Light Association and others. I am, of course, familiar with the various Edison plants which I visited and as chief inspector of central stations.

Q. How many Edison installations were there in existence at the time that you had charge of it in the capacity that you have mentioned?

A. I don't know the exact number. I think several dozen.

Q. And how were they located geographically with reference to New York City?

A. They were scattered about the states of New York, Pennsylvania, Ohio, Wisconsin, Illinois, Massachusetts, Connecticut, Maine and other states.

Q. Were any of these stations installed at the time of the Franklin Institute exposition at Philadelphia?

A. Oh, yes; quite a number.

Q. That was in the year of 1884?

A. Yes. You see, I was appointed chief inspector of central stations after that, so, if there had not been stations, I would not have been appointed. I had charge of all of the Edison stations.

Q. Was electrical current used at the time of the Franklin exposition extensively for power purposes, outside of mere experiment?

A. The application of electricity for power purposes was quite extensive—I think remarkably extensive, considering the date. This was one of the earliest of the electrical expositions, also, but the demonstrations were very practical and very commercial—very extensive.

Q. Do you know of any place where it was actually being employed for power and work and revenue at that date?

A. Yes. For instance, here in New York City there were quite a number of motors run in 1884.

Q. The Edison motor?

A. They were made by Bergman & Company very largely. Edison was one of the three owners of that, and they were manufacturing them for the Edison interests. At that time Mr. Bergman gave me one of these motors, which I have at my house at the present time—the identical motor. I used it as a fan motor. He arranged it so that I could use it for power purposes.

Q. Is there a means of measuring the power of each motor? A. Certainly.

Q. And that is true to-day? They have the same means to-day of measuring the power?

277 A. It is a simple matter to do.

Q. What I want to get at is this: In 1884, do you know the highest power that was in use—the highest-power motor?

A. I do not, but I know that early in 1882 I ran a motor in London that would approximate, would carry a load of 150 horsepower, but it was only run to demonstrate that such a motor of that

size and capacity could be run off the Edison system, and that had never been done before. I took a dynamo weighing twenty-three tons, the armature of which weighed six tons, and I operated that off the Edison system, electric lighting system, as I did other motors.

Q. At that time, you had not any occasion to apply that large power?

A. No. It was simply a demonstration to show with what facility these motors of an enormous size like that could be operated off of the Edison system.

Q. But in practical, actual use, about what was the highest-power motor of that date?

A. That I couldn't say, because you will understand I was abroad for three years at that time, but I can say that when I subsequently became the manager of the Boston Edison company I installed ninety-two motors in there, up to as high as between fifteen and twenty horsepower, and I prepared a table of the powers of those motors, and the Electrical World sent out seventeen thousand copies
278 of that table, giving all the data. It is interesting to mention that the different central stations I had visited wrote to me and I supplied them with copies of the various data, which is the result of extensive experience in installing motors on the Edison circuit.

Q. That was about that date, 1884?

A. No. When I prepared this elaborate chart of this power, running up to twenty horsepower, that was in 1886 or thereabouts--1886 and 1887. I am speaking now of what I know absolutely from my own application of the power. Of course, I know there were motors of large power utilized in other places.

Q. Take those motors as mentioned in Exhibit 1 here--it does not take a very high-powered motor to run that? I assume that is a cooling fan.

A. Some fans are used to cool air, some to exhaust air and others to create a slight breeze in a room. Some of those fans may be of very great power. I don't know what the maximum power was of those fans, but the fact remains that I demonstrated in 1882 that motors of as high as one hundred and fifty horsepower could operate off those same circuits; so the fact of being a small motor has no bearing on it.

Q. Would you say that in 1884 there was in the commercial world a very great demand for motors for power purposes?

279 A. There certainly was a great field for their application. They had come into considerable use, undoubtedly.

Q. Of course, that field has been open in the entire past?

A. It has not only been open but it was being supplied by a dozen different companies.

Q. You were familiar in a general way, at least, with what other companies were doing?

A. Yes. There was the Daft motor that they operated on the elevated railroad very early there, and Daft had motors long before he operated them on the elevated railroad; and there were others at

the Franklin Institute. So there was appreciation there of this great field for the application of the electric motor, and it was being extensively supplied.

Q. And at that time was being supplied, as you understand it?

A. Yes; by many concerns. At the time of the Franklin Institute, there were many of them.

Q. Was that demand largely confined to the East and the manufacturing districts, would you say, or was it generally throughout the United States?

A. I should say throughout the United States. The development of these power plants for distribution went all over the country.

Q. You say the Thompson-Houston had an exhibit there in the Franklin exposition?

A. Yes.

280 Q. Do you know who was in charge of that exhibit there?

A. Both Professor Thompson and Professor Houston were there a good deal of the time, Professor Houston especially, because he was practically the head man at the exposition or one of the head men; very much interested in it. I might mention that one of my assistants in Germany, a Mr. Schlesinger, put in an electric railroad in an experimental way. It was a railroad in Philadelphia, in the very early days. That was after he came back from Germany with me, but it was one of the early installations. I merely speak of that because there were many people in the early days you speak of that were building motors and were ready to supply them throughout the country.

Q. Were they making an effort to put them upon the market?

A. Naturally. There were a large number of companies at that time.

Q. Was there any other company there that was engaged in exhibiting solely motors and not having a lighting exhibit, do you know?

A. The only one that I can recall now—you mean at the Franklin exposition?

Q. Yes.

A. The only one that I can recall now is the Griscom double induction motor that I spoke of as having been shown previously at the Paris exposition. They went into the manufacture of these motors, particularly for the driving of sewing machines, and while their place was lighted with electric lights, I believe these lights were supplied from the same source of supply as their motors. My impression is that they were supplied from one of the other large plants.

281

Q. They were featuring a power device?

A. Yes.

Q. Do you know of any one at that time, Mr. Hammer, that was featuring electric lighting solely and having no relation to motors or heating appliances or devices?

A. I think all of the incandescent lamps you are speaking of, particularly—

Q. I intended to include it all.

A. You will have to differentiate between them.

Q. Very well.

A. I believe the only concern that had any electric lamps, incandescent lamps, in the exhibition that did not also embody a system of distribution of light and power and electrical energy for other purposes than light was the Stanley-Thompson incandescent lamp, which was shown in the exposition, and this Mr. Stanley shortly thereafter became identified with the Westinghouse interests and also the Stanley Electric Company. In both these companies, they supplied electrical apparatus for all purposes, for lighting and power—both of these companies.

282 Q. Mr. Hammer, at this date power is used very extensively?

A. Electrical power?

Q. Electrical energy for power purposes?

A. Yes.

Q. And its development for heating purposes is becoming quite extensive, isn't it?

A. It is.

Q. In different places?

A. Yes—for electric signs, also, and other purposes.

Q. As a matter of fact, there are now on the market and available devices that will enable you to use electrical current for heat wherever you might need it in the ordinary economies of life, taking the place of a stove or taking the place of gas for cooking and all that sort of thing?

A. Yes, sir.

Q. In other words, it would reach every home in every community where a proper plant was installed?

A. Yes.

Q. That was not true at the time in 1884, was it?

A. I think there were very few applications of electricity for electric heating and cooking, but, at the same time, the appreciation that there was that field and that the central distributing plant could and would be so utilized was self-evident to all of us at that time. I might state that at Menlo Park in 1880 Mr. Edison had electric meters. In fact, these meters in New York City had an

283 electro-thermostatic device, which is a heating device, operated by the electricity from the distributing station. When the temperature fell in the wintertime so low that there was danger of freezing the solution in the meter—they had an electroplating solution in the meter—this thermostat would act and close the circuit on an incandescent lamp, a heating lamp, and that lamp would then heat up the meter and prevent the solution from freezing. As soon as the temperature had risen to a certain point, the thermostat would cut out the heating lamp. That was a practical illustration for heating purposes, because many of these meters were put down in cellars and exposed places. But there is no question in my mind of the appreciation at that time of the possibility of an extensive use and of the probability of an extensive use of electrical heating appliances from the central distributing plant. There is no reason why it should not eventually be. Of course, since then they have been perfected and to-day are coming into very extensive use.

Q. The purpose of its application to power calls for very large motors at different places in the larger cities, does it not, and manufacturing districts—high-power motors, I might use the term.

A. Yes. A motor of one hundred and fifty horsepower can be used.

284 Q. What I want to get at, Mr. Hammer, is this: What power or strength of current would be required to supply current to a 150 horsepower motor, utilizing the maximum of its strength, ordinarily—in ordinary operation? How much voltage, if I am using the correct term to express it, would be required?

A. The motors of very large capacity can operate successfully and commercially from the 110 volt circuit, which is the standard electrical pressure of electro-motive force of the Edison distributing system. The amount or volume of electricity, differentiating from the pressure of electro-motive force—the amount of electricity will vary according to the size of the motor. In my own experience at Boston, where I installed ninety-two motors, it was customary for me to place very large motors of fifteen and twenty horsepower on the two outside wires of the three-wire system, which made 220 volts.

Q. Would it require a different installation, distributing wires, to furnish a current to motors than to lights ordinarily in the city?

A. No, sir.

Q. If the motors were to increase in number, you would naturally be required—

A. To give the conductors a greater capacity.

285 Q. But you think the conductors that are used for ordinary lighting purposes would supply current for ordinary power purposes?

A. Yes, sir. I might state incidentally that in the case, for instance, of operating trolley roads and operating the elevated railroads, where there are trains of cars and where there are large motors of very great capacity and carrying a large number of people, and where the conductors have to be small—the trolley wire above cannot be made very large—it is preferable to raise the potential and the electro-motive force perhaps to five or six hundred volts or seven hundred and fifty volts sometimes.

Q. In the use of motors, do you ever use an alternating current?

A. Yes; in many cases.

Q. There is a limit, however, to the amount of lamps or the amount of motors or of both that anyone conductor or wire will supply?

A. Yes.

Q. When you reach that limit, in order to continue that, it is necessary—

A. To make the conductor larger.

Q. So, as the field of lighting increases, or as the field of the use of current for use in power and heating purposes increases, naturally your distribution system has to increase to meet that increased demand from time to time?

286 A. Yes; and it is also necessary, where the distribution covers a very large area, to employ high potentials, so as to allow for the loss in the conductors, or to use alternating cur-

rent in connection with the direct current, so as to transmit over small wires an alternating current of a high potential, and then, if necessary, change that into a direct current of low electro-motive force.

Q. Take, for instance, Mr. Hammer, the City of New York. I will ask you to state, if you know, the relation between the amount of current used for power, heat and otherwise to that used for light, approximately, or in general terms, if you can state that relation.

A. That I couldn't say. I was informed recently that the Chicago Edison company had an income from their electric sign business alone of a million dollars a year. I don't know this from my own personal observation. Their receipts from electric power must be very great and for other purposes as well. I think such information is available, but I cannot give it from my own personal knowledge.

Q. Do you have in mind any city with which you may be familiar or industrial district where you could state in terms the relation between the use of a current for power and other commercial purposes of that character and its use for lighting purposes?

287 A. It would be difficult to state just what the percentages are. These stations have grown to enormous size, and in many cities there is more than one station and many sub-stations, and in some places there are several companies, each acting independently of the other; so that, while this information might be secured, it would be impossible to give it offhand.

Q. That would vary, naturally, with the district and the habits of the people, whether they were mining or manufacturing and that sort of thing, wouldn't it—whether they used lots of gas or little of gas?

A. Yes.

Q. I wanted to know if you know of any community where you had ascertained that proportion. Let me follow with this question: Is it not true that within the last, say, eight or ten years the relation of the use of electricity for power and like purposes to that of light differs considerably and in favor of power to what it did before—the ten years preceding?

A. You mean has it increased very much? If you mean proportionally, I think the proportion has been much greater in the case of the power.

Q. The last ten years?

A. Just what that proportion is I can't say.

288 By Mr. McHUGH:

Q. Do you include in "power" the function of these electric light signs—alternating signs and flashing signs?

A. Yes. There isn't anything that you cannot put an electric motor in and do it better than with anything else. I have an electric elevator in my house. You pull a rope and it comes down and stops itself. Going upstairs, it stops wherever you want it to. If the elevator boy isn't there, it doesn't make any difference. I have been living there fifteen years. That is an electric elevator.

By Mr. LAMBERT:

Q. So the use of electricity for power is constantly developing?

A. Naturally.

Q. And developing rapidly?

A. And for other purposes as well.

Q. Mr. Hammer, in your relationship to the Franklin exposition, you met William D. Marks?

A. Yes. I know him very well.

Q. He had some connection with the Franklin exposition?

A. I know Professor Marks very well.

Q. What was his relationship to that exposition?

289 A. I think he was one of the officials of the exposition. I don't know exactly what his title was, but I met him there and I have known him ever since.

Q. He is a consulting engineer in this city?

A. A consulting engineer, yes.

The stipulations of the parties hereto set forth in the foregoing depositions are correctly set out and are hereby ratified and confirmed.

WILLIAM D. McHUGH,
Solicitor for Complainant.

W. C. LAMBERT,
Asst. City Atty., for Respondent.

Dated May 13, 1912.

290 District Court of the United States for the District of Nebraska, Omaha Division.

In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against

THE CITY OF OMAHA, Respondent.

STATE OF NEW YORK,
County of New York, ss:

I, George H. Howard, notary public, do hereby certify that the foregoing depositions were taken at the time and place therein specified, pursuant to the stipulation and agreement of the parties therein set forth; that the witnesses were duly cautioned and sworn and that their testimony given in said depositions is truly and correctly hereinbefore set forth.

In witness whereof I have hereunto set my hand and notarial seal this 6th day of May, 1912.

[SEAL.]

GEORGE H. HOWARD,
Notary Public, New York County.

Endorsed: Filed May 8, 1912. R. C. Hoyt, Clerk.

291 Thereupon afterwards, to-wit: On the 8th day of May, 1912, Deposition of A. J. DeCamp was filed in said case, which said deposition in in words and figures following, to-wit:

292 District Court of the United States for the District of Nebraska, Omaha Division. In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

The deposition of A. J. De Camp, taken before me, Emily L. Franklin, a notary public, at the time and place therein stated, pursuant to the stipulation and agreement of the parties in the above entitled cause, made and entered into as herein set forth.

[SEAL.]

EMILY L. FRANKLIN,
Notary Public.

Commission expires February 21, 1915.

293 District Court of the United States for the District of Nebraska, Omaha Division. In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

PHILADELPHIA, PENN., *May* 1, 1912—11:30 a. m.

Appearances:

William D. McHugh, Esq., Counsel for the complainant.

William C. Lambert, Esq., Counsel for the defendant.

It is hereby stipulated and agreed by and between the parties to this action that the testimony of A. J. De Camp, a witness called on behalf of the complainant, may be taken at the office of the Philadelphia Electric Company, No. 1000 Chestnut Street, Philadelphia, Pennsylvania, on the 1st day of May, 1912, beginning at 11:30 a. m., all notice of the time and place of the taking of said deposition being waived by the parties.

It is further agreed that the deposition of the witness may be taken down in shorthand by James O'Neill and afterwards by him extended, the deposition to be taken before Emily L. Franklin, a notary public, the signature of the witness to the deposition being hereby expressly waived.

It is further agreed that all objections as to the form and manner of the taking and the transmission of the deposition are hereby waived.

A. J. DE CAMP, a witness called on behalf of the complainant, being duly sworn, testified as follows:

Direct examination by Mr. McHUGH:

1 Q. You may state your name, residence and occupation.

295 A. A. J. De Camp; residence, Philadelphia, Pennsylvania; occupation, General Manager of the Philadelphia Electric Company.

Mr. LAMBERT: The defendant, the City of Omaha, objects to the introduction of any testimony in this cause, for the reason that the questions involved in this litigation have been formerly adjudicated against the plaintiff in this cause, in the case of the Omaha Electric Light & Power Company against the City of Omaha in the Circuit Court of the State of Nebraska, and the same cause in the Circuit Court of Appeals in St. Louis; and second, because the plaintiff in this cause is estopped to relitigate the questions set up in its bill of complaint against the defendant, for the reason that it did not intervene or attempt to intervene in said cause in said courts and while the same was pending there, well knowing, during the time that said cause was pending, the nature of the questions presented in that case to be litigated.

2 Q. What were your residence and occupation during the year 1884?

A. Philadelphia; occupation, General Manager of the Brush Electric Light Company.

3 Q. How long had you been General Manager of the 296 Brush Electric Light Company in Philadelphia prior to 1884?

A. Four years.

4 Q. Then you were General Manager of the Brush Electric Light Company in Philadelphia from the time it went into business?

A. Yes.

5 Q. Was the Brush Electric Light Company engaged in the generation of electrical energy at a central station and in the distribution of this energy throughout the City of Philadelphia?

A. Yes.

6 Q. What is the fact as to whether, prior to December, 1884, the electrical energy generated and distributed by the Brush Electric Light Company in Philadelphia was utilized for purposes other than the production of light?

A. It was so utilized.

7 Q. For what other purposes was the electrical energy generated and distributed by the Brush Electric Light Company of Philadelphia utilized prior to December, 1884?

A. For running motors.

8 Q. About how many motors did you have operated by the electrical energy generated and distributed by the Brush Electric Light Company prior to December, 1884?

A. Thirty-two motors.

9 Q. Those motors were placed where?

- A. At John Wanamaker's and Wanamaker & Brown's.
- 297 10 Q. And these motors were fed with electrical energy from the same circuits that furnished the electric lights?
- A. Yes.
- 11 Q. The Brush Electric Light Company supplied the energy to these motors from its circuit in the usual course of business?
- A. Yes.
- 12 Q. And collected revenue for the sale of that current the same as for the sale of current for light to other people?
- A. Yes, sir.
- 13 Q. What machinery was operated by these motors?
- A. Sewing machines.
- 14 Q. Were these machines utilized in a commercial way in the business of these people?
- A. In the manufacture of clothing.
- 15 Q. You are familiar with the business of electric light companies from the beginning of their installation in this country?
- A. Yes.
- 16 Q. And familiar with the business done by electric light companies from the time they were organized and installed their plants in the United States?
- A. Yes.
- 17 Q. You may state what was included from the beginning in the United States in the business done by electric light companies.
- 298 A. The business of electric light companies from the beginning was recognized as the generation of electrical energy at a central station and the distribution and sale of this energy for all purposes for which it was practicable.

The stipulations of the parties hereto set forth in the foregoing deposition are correctly set forth and are hereby ratified and confirmed.

Dated May 13th, 1912.

WILLIAM D. McHUGH,
Solicitor for Complainant.
W. C. LAMBERT,
Asst. City Att'y, for Respondent.

299 District Court of the United States for the District of Nebraska, Omaha Division. In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

STATE OF PENNSYLVANIA,
County of Philadelphia, ss:

I, Emily L. Franklin, notary public, do hereby certify that the foregoing deposition was taken at the time and place therein speci-

fied, pursuant to the stipulation and agreement of the parties therein set forth; that the witness was duly cautioned and sworn and that his testimony given in said deposition is truly and correctly hereinbefore set forth.

In witness whereof I have hereunto set my hand and notarial seal this 6th day of May, 1912.

[SEAL.]

EMILY L. FRANKLIN,
Notary Public.

Commission expires February 21, 1915

Endorsed: Filed May 8, 1912. R. C. Hoyt, Clerk.

300 Thereupon afterwards, to-wit: On the 8th day of May, 1912, Deposition of Thomas A. Edison was filed in said case, which said deposition is in words and figures following, to-wit:

301 District Court of the United States for the District of Nebraska, Omaha Division.

In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

The deposition of Thomas A. Edison, taken before me, John Warren, a notary public, at the time and place therein stated, pursuant to the stipulation and agreement of the parties in the above entitled cause, made and entered into as herein set forth.

[SEAL.]

JOHN WARREN,
Notary Public.

302 District Court of the United States for the District of Nebraska, Omaha Division.

In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

ORANGE, NEW JERSEY, April 30, 1912—2 p. m.

Appearances:

William D. McHugh, Esq., Counsel for the complainant.

William C. Lambert, Esq., Counsel for the respondent.

It is hereby stipulated and agreed by and between the parties to this action that the testimony of Thomas A. Edison, a witness called on behalf of the complainant, may be taken at the laboratory of the said Thomas A. Edison, in Orange, New Jersey, on the 30th day of April, 1912, beginning at two p. m., all

303 of the said Thomas A. Edison, in Orange, New Jersey, on the 30th day of April, 1912, beginning at two p. m., all

notice of the time and place of the taking of said deposition being waived.

It is further agreed that the deposition of the witness may be taken down in shorthand by James O'Neill and afterwards by him extended the deposition to be taken before John Warren, a notary public, the signature of the witness to the deposition being hereby expressly waived.

It is further agreed that all objections as to the form and manner of the taking and the transmission of the deposition are hereby waived.

THOMAS A. EDISON, a witness called on behalf of the complainant, being duly sworn, testified as follows:

Direct examination by Mr. McHUGH:

Q. You may state your name?

A. Thomas A. Edison; Orange, New Jersey; profession, an inventor.

Q. You have been entirely familiar with the electric light business from the time those companies were first organized?

A. Yes, sir.

Q. And you have been entirely familiar with the business
304 carried on by those companies from the inception?

A. Yes, sir.

Q. What was embraced in the function performed by the electric light companies from the beginning of those companies?

Mr. LAMBERT: The defendant, the City of Omaha, objects to the introduction of any testimony in this cause, for the reason that the questions involved in this litigation have been formerly adjudicated against the plaintiff in this cause, in the case of the Omaha Electric Light & Power Company against the City of Omaha in the Circuit Court of the State of Nebraska, and the same cause in the Circuit Court of Appeals in St. Louis; and second, because the plaintiff in this cause is estopped to relitigate the questions set up in its bill of complaint against the defendant, for the reason that it did not intervene or attempt to intervene in said cause in said courts and while the same was pending there, well knowing, during the time that said cause was pending, the nature of the questions presented in that case to be litigated.

A. Why, selling current for light and power.

Q. On and prior to December, 1884, did the term "general electric light business" have a recognized meaning?
305

A. The words "general electric light" were not used, to my recollection, but the words "electric light" were what were generally used.

Q. And they had a definite meaning?

A. Yes, sir.

Q. And what was that meaning on and prior to December, 1884?

A. It meant generating a current from a central station and distributing it over wires to many customers for use for lighting and motors.

Q. In point of fact, when did you first develop your system known as the Edison system of electric lighting?

A. In 1880.

Q. And that system, known as the Edison system of electric lighting, included, as a part thereof, the appliances for the utilization of electrical energy for power purposes?

A. Yes, sir.

Q. These appliances were covered by patents that had been taken out in this country and abroad?

A. Yes, sir.

Q. Was there a company organized to take over and commercially operate and handle these patents?

A. Yes, sir.

Q. And what was the name of that company?

A. Edison Electric Light Company.

Q. Were local companies organized to instal and operate plants in various cities and in various states of the country, to operate central generating and distributing plants?

306

A. Yes, sir.

Q. And what were they called?

A. Generally called by the name of the town and the words "Electric Lighting" added. For instance, like "Harrisburg Electric Lighting Company", and some were called "Electric Illuminating Company", like "New York Electric Illuminating Company".

Q. And did these local companies operate under licenses from the general company, the Edison Electric Light Company?

A. Yes.

Q. And those license contracts gave them the right to use the various patents comprising the generation, distribution and utilization of electrical energy for light and power and other purposes?

A. Yes, sir.

Q. In point of fact, Mr. Edison, when was there installed first a plant by which electrical energy generated at a central station was utilized for the production of light and power and other purposes?

A. My exhibition plant at Menlo Park. We lighted the streets, we lighted the houses, we had a motor for running a lathe and also a motor for running a sewing machine, and which we used as an exhibition plant to bring different people out.

307

Q. And did you have motors also in the lamp factory operated from the same current?

A. I don't remember.

Q. Do you remember the organization of the Edison Electric Illuminating Company of New York?

A. Yes, sir.

Q. That was the local company that was first organized and which first installed the local plant in the southern part of New York City?

A. Yes, sir.

Q. That was the first central generating and distributing plant established in the United States?

A. No. There were other small plants before that, but it was one of the first large plants.

Q. Do you remember the preparation for the work of installing and operating this plant?

A. Yes, sir.

Q. In that work of planning this local system in New York, was the utilization of the electrical energy for power purposes contemplated and provided for?

A. Yes, sir. In calculating the size of the copper mains, we allowed for five hundred and some odd electric hoists, for which we hoped to supply power, as many of them were worked by hand. In fact, a great many were worked by horses and mules up at the top of high buildings and had been for many years, and we hoped to replace these by electric motors, and therefore allowed for the extra amount of copper which would be necessary to carry this current.

308 Q. What is the fact as to whether your exhibit at Menlo Park and the installation and operation of your central system in New York by the Edison Illuminating Company of New York attracted attention from the public at large and the press?

A. It attracted great attention.

Mr. LAMBERT: I have no questions.

The stipulations of the parties hereto set forth in the foregoing depositions are correctly set forth and are hereby ratified and confirmed.

WILLIAM D. McHUGH,
Solicitor for Complainant.
W. C. LAMBERT,
Asst. City Att'y, for Respondent.

May 13th, 1912.

309 District Court of the United States for the District of Nebraska, Omaha Division.

In Equity.

OLD COLONY TRUST COMPANY, Complainant,
against
THE CITY OF OMAHA, Respondent.

STATE OF NEW JERSEY,
County of —, ss:

I, John Warren, notary public, do hereby certify that the foregoing deposition was taken at the time and place therein specified, pursuant to the stipulation and agreement of the parties therein set forth; that the witness was duly cautioned and sworn and that his testimony given in said deposition is truly and correctly hereinbefore set forth.

In witness whereof I have hereunto set my hand and notarial seal this 6th day of May, 1912.

[SEAL.]

JOHN WARREN.

Endorsed: Filed May 8, 1912. R. C. Hoyt, Clerk.

310 Thereupon afterwards, to-wit: On the 9th day of May, 1912, depositions of Arthur Perry and W. E. McGregor were filed in said case, which said depositions are in words and figures following, to-wit:—

311 UNITED STATES OF AMERICA:

District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,

vs.

THE CITY OF OMAHA, Respondent.

Appearances:

William D. McHugh, Esq., for the Complainant.

William C. Lambert, Esq., for the Respondent.

The depositions of Arthur Perry and W. E. McGregor, called on behalf of the Complainant in the above entitled cause, taken before me, James W. Mudge, a Notary Public of the County of Suffolk, Commonwealth of Massachusetts, this fourth day of May, 1912, at the offices of Perry, Coffin & Burr, 60 State Street, Boston, Mass., at 10 o'clock A. M., pursuant to the stipulation set forth below.

Stipulation.

It is hereby stipulated and agreed by and between the parties to the above entitled cause that the depositions of Arthur Perry and W. E. McGregor, witnesses on behalf of the Complainant, may be taken at the office of Perry, Coffin & Burr, in the City of
312 Boston, Commonwealth of Massachusetts, on the fourth day of May, 1912, beginning at 10 o'clock A. M., and that the testimony of said witnesses may be taken down in shorthand by James W. Mudge, a Notary Public of said Commonwealth, and afterwards extended by him in typewriting; and that the signature of the witnesses to the depositions is hereby waived, and all notice of the time and place of the taking of the said depositions is hereby waived, and all objection as to the manner of taking, certifying and transmitting the depositions is hereby waived.

ARTHUR PERRY, being first duly and solemnly affirmed to testify the truth, the whole truth and nothing but the truth in the said cause, testifies as follows:

Direct examination.

(By Mr. McHUGH:)

Q. You may state your name, residence and occupation?

A. Arthur Perry; 10 Marlboro Street, Boston; senior member of the firm of Perry, Coffin & Burr, bankers.

Mr. LAMBERT: The Respondent, the City of Omaha, objects to the introduction of any testimony in this case, for the reason that the questions raised by the Complainant in its bill in this cause were formerly adjudicated and set at rest in the action of the Omaha Electric Light & Power Co. against the City of Omaha, heretofore instituted in the United States Circuit Court for the District of Nebraska, and tried in said court, and from that court appealed to the Circuit Court of Appeals of the Eighth District, and heard and determined in that court adversely to the claims of the Complainant in that suit, the Complainant herein sustaining the relation of privity to the Complainant in said cause; and for the further reason that the Complainant in this cause is estopped to relitigate
 313 and retry the questions presented in its bill herein for the reason that it did not intervene in said cause of the Omaha Electric Light & Power Company against the City of Omaha, or attempt to intervene therein, and did not become a party therein or attempt to become a party therein, well knowing all the time of the pendency of said cause and of the questions at issue and presented therein.

Q. You may state, Mr. Perry, whether as a part of the business of Perry, Coffin & Burr, Bankers, there is included the purchase and sale of bonds issued by corporations, including public service corporations?

A. Yes. That is included.

Q. That constitutes a large part of the business of the firm?

A. Yes.

Q. And for how long a period of time has the firm and have you been connected with the business of buying and selling such securities?

A. I personally have been connected with this line of business since 1891 when I took the position of Manager of the Bond Department of the Thomson-Houston Electric Company. That was the manufacturing concern at Lynn. In 1894 I became Vice President and General Manager of the United Electric Securities Company, which did a similar business. And since 1898 I have been a member of this firm, engaged in the investment bond business.

Q. Did the firm of which you are the senior member purchase any of the bonds of the Omaha Electric Light & Power Company?

A. They did.

Q. When was the first purchase made?

A. July 5th, 1905.

Q. From whom did the firm buy the bonds?

A. From the United Electric Securities Company of this city.

Q. Did your firm buy these bonds in connection with any other banking and bonding house?

A. Bought jointly with N. W. Harris & Co. to the amount
 314 of \$1,385,000 in bonds.

Q. Before your firm and the house of N. W. Harris & Co. purchased these bonds what did you do with respect to investigating the security for the bonds, which is the mortgage, of course.

Mr. LAMBERT: The Respondent objects to the question and its

answer for the reason that it is incompetent, irrelevant, immaterial, and in no wise binding upon the Respondent unless it relates to some investigation which was made and some inquiry which was had of the Respondent or some officer of the Respondent.

A. Mr. Coffin and myself of this firm have been familiar with the physical property and known it for years. We therefore did not include in this purchase a provision that it was subject to physical examination. We did, however, have this clause in our contract:

"Finally, it is understood that if you accept this proposition your undertaking to purchase will be subject to your receiving satisfactory opinion from your counsel as to the franchises, legality of bonds and mortgage, and other legal matters and receiving from an auditor satisfactory report as to the present condition of the company, its property, accounts and earnings."

Q. That provision was in the proposition which was accepted by your firm and the house of N. W. Harris & Co. for the sale of these bonds to your two institutions?

A. That is right.

Q. Prior to the consummation of the purchase and the acceptance of the bonds and the payment therefor, did you have the franchises of the Omaha Electric Light & Power Co. examined and passed upon by your counsel.

Mr. LAMBERT: The Respondent objects to the question and its answer for the reason that it is incompetent, irrelevant and immaterial, and in no wise binding upon the Respondent unless it relates to some investigation which was made and some inquiry which was had of the Respondent or some officer of the Respondent.

315 A. We asked Messrs. Ropes, Gray & Gorham, attorneys of this city, to examine all legal matters in connection with the issue of the bonds and also give us a report upon the franchise situation, and we have their original opinion on those matters, their original signed opinion on these matters, dated July 19th, 1905.

Q. Now, the firm of Ropes, Gray & Gorham is a firm of counsel in the City of Boston?

A. They are.

Q. And Prof. Gray is one of the members of that firm?

A. He is.

Q. And that firm is of counsel also for N. W. Harris & Co.—was in this transaction?

A. They were.

Q. And the question of the extent of the franchise and its duration was raised?

A. That was raised by the bankers and is covered in the opinion. It was raised by the bankers in so far as certified copies of the franchise were submitted to counsel for an opinion.

Q. You don't imply that you raised a doubt?

A. No.

Q. But you submitted the franchise itself and asked for an opinion?

A. Yes.

Q. And the opinion of the firm that you received covered the duration of the franchise and that it was without limit as to time?

A. It did.

Q. Now, did you purchase the bonds specified in reliance upon the opinion of your counsel that the franchise of the company that was mortgaged to secure the bonds was without limit as to time?

Mr. LAMBERT: The Respondent objects to the question for the reason that it calls for a conclusion of the witness and not a statement of a fact; and for the further reason that it is irrelevant and immaterial.

A. We did.

Q. Upon the purchase of these bonds by your firm and the firm of N. W. Harris & Co., did your two firms take steps to place
316 these bonds upon the market and sell them to the general public?

A. Yes.

Q. Did you prepare and distribute a circular with reference to the bonds?

A. We did.

(A circular of information respecting the bonds of the Omaha Electric Light & Power Co., is marked "Ex. 1—J. W. M." for purposes of identification.)

Q. Handing you Exhibit No. 1, being a circular of information respecting the bonds of the Omaha Electric Light & Power Co., I will ask you to state whether that is one of the circulars to which you refer?

A. It is one of the circulars to which I refer. I know that because we number all our circulars as they come out, and the number on this is "Circular 107."

Q. Did the firm of N. W. Harris & Co. likewise send out the same circular?

A. They sent out a similar circular.

Q. Was this circular sent out in the ordinary course of trade, in the course of your business?

A. We sent it to our full mailing list.

Q. And the full mailing list comprises the people who are in the market for that kind of securities, or some of them?

A. Whom we hope are in the market.

Q. The purpose of sending it out was to apprise prospective customers with respect to these securities?

A. Yes.

Mr. McHUGH: I now offer in evidence as a part of the deposition the Exhibit No. 1.

Mr. LAMBERT: To which the Respondent objects for the reason that it is mere hearsay, in nowise binding upon the Respondent in this cause, not being or purporting to be any statements or representations which the Respondent or any of its officers authorized so to do may have made to the witness's firm; also for the reason that

317 no proper foundation has been laid; also for the reason that it is incompetent, irrelevant and immaterial.

(The document previously marked for identification "Ex. 1, J. W. M." is offered in evidence with the same exhibit number.)

Q. Now, Mr. Perry, at that time there was published and in circulation a periodical called The Commercial and Financial Chronicle?

A. Yes.

Q. That was a publication that related to securities?

A. Yes.

Q. And was generally circulated among people who dealt in securities both as purchasers and sellers?

A. Yes.

Q. And the investing public were familiar with and utilized the columns of that paper?

A. I should say so.

Q. At the time of the purchase of these bonds by your two houses and about the time of your sending out the circular placing these bonds on the market, did you advertise them in the Commercial and Financial Chronicle?

A. We did.

Q. Did you advertise these bonds for sale in this Commercial and Financial Chronicle?

A. We did.

Q. And in the number of the publication which contained your advertisement did the publishers, referring to these bonds, publish a summary by them prepared, of the statements in the circular?

Mr. LAMBERT: The Respondent objects on the ground that the answer called for is hearsay.

A. They published a summary, I suppose by them prepared.

Q. In this summary of the statements and this circular to which you have referred, which was printed in the number of The Commercial and Financial Chronicle containing the advertisement of these bonds, was there this sentence set in quotation marks:

"The franchises of the Company in Omaha are, in the opinion of our counsel, unlimited in time and satisfactory from a business standpoint."?

318 Mr. LAMBERT: The Respondent objects to the question as calling for hearsay, also on the ground that no proper foundation has been laid; also on the ground that the answer is in no wise binding upon the Respondent; and on the ground that it is incompetent, irrelevant and immaterial. But this objection does not include the objection that the witness is testifying to the contents of the publication instead of putting in evidence the publication itself, the publication being exhibited to counsel for the Respondent.

A. Yes, there was.

Q. Did your two houses buy any of the bonds of the Omaha Electric Light & Power Co. secured by their first mortgage after that date? A. Yes.

Q. What was the last date that you purchased any bonds?

A. The last date we purchased bonds of anyone excepting people who had bought of us was February 19th, 1908.

Q. And from whom did your two firms buy those bonds at that time?

A. We bought them from the Omaha Electric Light & Power Co., or people representing them. Our books show that we bought it from the Omaha Electric Light & Power Co.

Q. You remember the fact that the Circuit Court of the United States for the District of Nebraska, in a suit pending there, decided that the franchise of the Omaha Electric Light & Power Co. did not include the right to use the streets for the distribution of electrical energy to be used for power purposes. You remember there was such a decision?

A. Yes.

Q. You may state what effect that fact had on the bonds. What did you do with respect to the bonds?

Mr. LAMBERT: The Respondent objects to the question as irrelevant, immaterial and incompetent, and as calling for a conclusion of the witness.

319 A. I think it was in 1919, and I fix the date from the memorandum of the sales of these bonds—that we first learned the decision of the Circuit Court of Appeals and upon learning that we took these bonds from our list of offerings, and they have not been on our list since.

Q. And so the bonds, so far as your firm is concerned, have been taken off the market—so far as your endeavor to float the bonds is concerned?

A. That is correct.

Q. Do you know what the fact is as to whether after that time in any individual sale there may have been of some of these bonds by individuals the price was much lower than it was before that?

A. Some of our customers wanted to realize on their bonds and we were forced to tell them the situation, that under the circumstances we felt we could not pay what we had been paying for the bonds, but that we would help them so far as we could,—and we have taken over in some cases from our customers those bonds in the lower nineties, as an accommodation to them,—and are carrying some of them now in our vaults. But we are not offering them on our list.

Q. So that the decision and controversy seriously affected the price at which they could be sold,—lowered it?

A. It did.

Mr. McHUGH: That is all.

Cross-examination.

(By Mr. LAMBERT:)

Q. Mr. Perry, is your firm the owner of the bonds that you took up as you have just stated in your answer?

A. Yes, we are. We are the owners of some of them. We haven't

all of them. The reason for that is—there have been certain people who were ready to buy with a full statement of the facts. Although they have not been on our list, those people have been in here asking for something they were willing to take a risk on, and they have bought them at a low figure. But we are not offering the bonds generally, and are carrying them in our safe deposit box; and if somebody should come in and say, "I am willing to take the risk of that situation," knowing the full facts, in order to get a better rate of return, there have been a few such cases, but they are very few.

Q. It was the decision in the Circuit Court of Appeals that affected the price of bonds that you speak of?

A. It did, because we here as a firm had no idea, in view of the very strong opinion given by the reputable firm of Ropes, Gray & Gorham, that the suit would go adversely to the Company. When it actually did go adversely we felt we could not do other than advise all our customers of the fact. That made the difference in price.

Q. What I want to get at is this: There were two decisions: First, the decision by the Circuit Court of the Nebraska District; then followed that on appeal by the decision of the Circuit Court of Appeals. Now, did the first decision affect the bonds in the way of lowering the price?

A. I don't know the dates of those two decisions. I only know by a memorandum I have in my hand taken from our books—it would appear that the decided drop in the price was, I think, about 1910—May or June of 1910—the early part of the year. That was the time it came to our attention, and the price was reduced because of that decision. I can't be sure which decision it was, but my recollection is that it was a decision of the Court of Appeals. I am not certain on that point.

Q. The Old Colony Trust Co., Complainant in this suit, is one of your clients who purchased a part of the bonds from you?

A. I think they have bought bonds, but I don't know that they had at the time suit was filed. I can't tell the date.

321 Q. It was at your instance that the firm of attorneys who have been named here furnished the opinion?

A. Yes.

Q. That your firm has personal knowledge of?

A. Yes.

Q. The matter was simply turned over to them for their opinion on the questions generally that affected the issue, etc., of the bonds?

A. Always in cases of this kind we get charters of the company, certified copies of charters of the company, all franchises, all proceedings with relation to the authorizing and issue of the bonds, including directors' and stockholders' meetings, all legal papers that might affect the validity of the issue and its security, submitting them to our counsel, who are retained by us in the interests of investors; and our contract of purchase in this case and in all cases of that character is made conditionally upon our having a satisfactory legal opinion from counsel. That was the reason that this opinion came down from Ropes, Gray & Gorham.

Q. But it came at your request?

A. Yes.

Q. They were in your employ and responded to your request?

A. Yes. When you say "your" I understand you to mean the two houses.

Q. You purchased originally the bonds of the Omaha Electric Light & Power Co.?

A. The original purchase was of the United Electric Securities Company, they representing, I think, the Bond & Share Co. in New York, who also held some of the bonds. They were not bought direct from the company.

Q. Do you know who furnished your firm of attorneys with the certified proceedings entering into the issue?

A. My recollection is that they were handed to us by the officers of the United Electric Securities Co.

Q. They followed the transaction down through the different holders and different parties?

A. They would come from the Company to the Securities
322 Company—in other words, the United Electric Securities Company—from whom we bought, were to supply all these legal papers that would be necessary for our counsel to base their opinion upon. Of course, I can't state from my own knowledge where they got them, but I naturally suppose they got them from the Company.

Q. Do you know whether or not, the City of Omaha, its officials, prepared for you and at your request or at the request of your attorney certified proceedings with reference to this issue?

A. No, I don't know.

Q. Mr. Perry, the advertisement that you have referred to, and from which some quotations have been made as a part of your testimony, was that prepared by your firm or someone in the employ of your firm?

A. I am not positive in my answer, but I think it was prepared in the New York office of N. W. Harris & Co., for the reason that in any joint advertisements which we have made, in offering bonds in the Commercial and Financial Chronicle, it has usually been prepared by them.

Q. The quotation referred to by Judge McHugh in his question was a statement by the publishers rather than any statement appearing in the advertisement?

A. It is a statement under quotation marks taken, I think, from the circulars of the two houses.

Q. That is what I want to get at,—if the information was probably from the same source as the circular or from the circular information?

A. I think that is a fair assumption.

Mr. LAMBERT: That is all.

323 W. E. MCGREGOR, being first duly and solemnly sworn to testify the truth, the whole truth and nothing but the truth in the said cause, testifies as follows:

Direct-examination.

(By Mr. McHUGH:)

Q. You may state your name, residence and occupation.

A. W. E. McGregor; residence, Brookline, Mass.; associated with N. W. Harris & Co., incorporated at the present time.

Q. Were you a resident of Boston in 1905?

A. Yes.

Q. And at that time were you connected with N. W. Harris & Co.?

A. Yes.

Q. You heard the testimony of Mr. Perry that has just been given in the case?

A. I did.

Q. And you have knowledge of the actions of your House in connection with the House of Perry, Coffin & Burr in connection with these bonds?

A. Yes, sir.

Q. And you know that the statements that Mr. Perry has made in connection with the transactions in these bonds are correct?

Mr. LAMBERT: Making no objection to the form of the question, the Respondent now objects to any and all testimony of the witness inquired of, for the reason that the same would be hearsay, not in any way binding upon the Respondent, the statements not being made in the presence of the Respondent or any of its officers, and the statements not having been called to the attention of the Respondent or any of its officers, and therefore being in nowise binding upon the Respondent; also as calling simply for a conclusion and speculation on the part of the witness so far as the facts are concerned as to which he is testifying; also as incompetent, irrelevant and immaterial. But the objection does not go to the
324 fact that the question comprehends all of the answers of the preceeding witness, because it is desired by both parties that the repetition of questions be avoided.

A. I do.

Q. And the circular that N. W. Harris & Co. distributed was in all essentials the same as the circular introduced in evidence?

A. In essentials; yes, sir.

Q. And the sentence in the circular:

"The franchises of the Omaha Electric Light & Power Company of Omaha are in the opinion of our counsel unlimited in time and satisfactory from a business standpoint"

And their further statement—

"The title, franchises and all proceedings incident to the bond issue have been passed upon by our attorneys, Messrs. Ropes, Gray & Gorham of Boston"

were both in the circular distributed by N. W. Harris & Co.?

A. Yes, sir.

Q. And in the purchase of the bonds did N. W. Harris & Co. rely upon the opinion of their counsel, as stated, that the franchises of the company were unlimited in time and satisfactory from a business standpoint?

Mr. LAMBERT: The Respondent objects to the question as incompetent, irrelevant and immaterial.

A. We did.

Q. And that was, of course, an essential consideration to be determined and settled before you agreed to buy these bonds at all?

Mr. LAMBERT: The Respondent objects to the question as incompetent, irrelevant and immaterial.

A. It was.

Mr. McHUGH: That is all.

325 Mr. McHUGH: As further evidence and under the stipulation of the parties that evidence may be admitted, the Complainant offers in evidence contract entered into the 29th day of October, 1883, between the Edison Electric Light Co. and the Edison Electric Illuminating Co. of Newburgh, New York, marked Complainant's Exhibit A.

Mr. LAMBERT: To the offer of Exhibit A the Respondent makes the objection that it is incompetent, irrelevant and immaterial. The objection, however, does not go to the fact that the execution of the contract is not proven nor its identity established.

(A contract entered into the 29th day of October, 1883, between the Edison Electric Light Co. and the Edison Electric Illuminating Co. of Newburgh, New York, is offered in evidence and marked Complainant's Exhibit A.)

Mr. McHUGH: Subject to the objection which the Respondent has made to Exhibit A, it is stipulated that it may be considered as proving that on the dates as hereinafter shown the Edison Electric Light Co. entered into contracts similar in terms to the contract Exhibit A, with the following named companies:

The Edison Electric Illuminating Co. of New York, Mar. 23, 1881.

Western Edison Light Co., Chicago, Ill., July 31, 1882.

Edison Electric Illuminating Co. of Shamokin, Pa., May 4, 1883.

Edison Electric Illuminating Co. of Sunbury, Pa., May 8, 1883.

Edison Electric Illuminating Co. of Lawrence, Mass., Aug. 31, 1883.

Tiffin Edison Electric Illuminating Co., Tiffin, O., Oct. 25, 1883.

The Edison Electric Illuminating Co. of Hazleton, Pa., Oct. 31, 1883.

The Edison Electric Illuminating Co. of Williamsport, Pa., Nov. 24, 1883.

326 The Edison Electric Illuminating Co. of Galveston, Tex., Dec. 15, 1883.

The Piqua Edison Electric Illuminating Co., Piqua, O., Jan. 29, 1884.

The Circleville Edison Electric Illuminating Co., Circleville, O., March 28, 1884.

The Ediston Electric Illuminating Co. of Cumberland, Md., April 26, 1884.

The Ediston Electric Illuminating Co. of Ashland, O., May 27, 1884.

Des Moines Edison Light Co., Des Moines, Iowa, July 30, 1884.

The stipulations of the parties hereto set forth in the foregoing depositions are correctly set forth and are hereby satisfied and confirmed.

Dated May 13th, 1912.

WILLIAM D. McHUGH,
Solicitor for Complainant.
W. C. LAMBERT,
Ass't City Att'y, for Respondent.

327 I, James W. Mudge, a Notary Public within and for the County of Suffolk, Commonwealth of Massachusetts, do hereby certify that the foregoing depositions and testimony were taken before me as Notary Public pursuant to an agreement and stipulation of the parties as herein set forth, the appearances being as herein set forth,—and the testimony of the witnesses was taken down by me in shorthand, and under my supervision correctly transcribed,—and the foregoing contains truly and correctly the testimony given and introduced at said hearing on the said date and at the said place.

In witness whereof I hereby set my hand and affix my notarial seal this 6th day of May, 1912.

[SEAL.]

JAMES W. MUDGE,
Notary Public.

328

Ex. 1. J. W. M.

Perry, Coffin & Burr, 60 State Street, Boston.

\$1,200,000.

Omaha Electric Light & Power Company, Omaha, Nebraska.

First Mortgage 5% Gold Bonds.

Dated July 1, 1903.

Due July 1, 1933.

Optional at 105 and interest on or after July 1, 1908.

Interest payable January 1 and July 1 at Old Colony Trust Company, Boston, Trustee.

Capitalization.

Capital Stock:

Preferred issued.....	\$481,800
Common ".....	2,007,500
Total	<u>\$2,489,300</u>
13—754	

First Mortgage Bonds:

Issued and outstanding..... \$1,580,000

There are \$1,420,000 additional bonds in escrow under conservative restrictions, for permanent extensions and additions to the property.

Earnings as Officially Reported Year Ending May 31, 1905.

329	Gross receipts	\$379,187.36
	*Operating Expenses and taxes.....	254,519.62
	Net earnings	\$124,667.74
	Bond interest for above period.....	73,979.19
	Surplus	\$50,688.55

*The operating expense as given above is unusually large, as the company arbitrarily charges \$40,000 per annum against depreciation, and this charge is carried directly in the item of "Operating Expenses and Taxes."

The above gross earnings show an increase of more than 13% over the corresponding twelve months preceding. The Company has been paying dividends of 5% per annum on its preferred shares since August, 1903.

This company controls the entire electric light and power business in the Cities of Omaha and South Omaha, Nebraska, (with the exception of a small amount of power in Omaha) and by ownership of stock, controls the entire gas, electric light and power business in Council Bluffs, Iowa, serving a population of about 170,000. The company operates under favorable franchises, and has a strong local management. These bonds are, in the opinion of counsel, a first mortgage on all the property, rights and franchises of the company, and are also a first lien upon over 99% of the capital stock of the

Citizens Gas & Electric Company of Council Bluffs.

330 We have made a careful investigation of this property, and recommend these bonds for investment.

For further information, reference is made to the President's letter on the following page.

Price 102 and interest.

Omaha Electric Light & Power Company.

F. A. Nash, President.

G. E. Clafflin, Vice-President.

S. E. Schweitzer, Secretary and Treasurer.

H. A. Holdrege, General Manager.

President's Letter.

N. Y. LIFE BUILDING,
OMAHA, July 10, 1905.

Messrs. Perry, Coffin & Burr, Boston.

GENTLEMEN: Referring to your purchase of the bonds of the Omaha Electric Light & Power Company, this company controls the entire electric light and power business in the cities of Omaha and South Omaha, Nebraska (with the exception of a small amount of power in Omaha) and by ownership of stock, in Council Bluffs, Iowa where it also controls the entire gas business. These cities had, according to the census of 1900, a population of 154,358, and it is now estimated that the population served is in excess of 170,000.

331 The City of Omaha, located in the extreme eastern part of Nebraska on the Missouri River, just north of its junction with the River Platte, is situated in the center of an extremely prosperous agricultural district. It is a progressive and well-built city, and a large jobbing and manufacturing center, being particularly noted as a distributing point for agricultural implements. One of the largest smelting and refining plants in the country is located here.

Omaha is a very important railroad center. It is the eastern terminus of the Union Pacific Railway, and is also served by the following railway systems:

Chicago, Milwaukee & St. Paul Ry. Co.

Chicago & Northwestern Ry. Co.

Chicago, Burlington & Quincy R. R. Co.

Chicago, Rock Island & Pacific R. R. Co.

Illinois Central R. R. Co.

Chicago & Great Western Ry. Co.

Missouri Pacific Ry. Co.

Wabash R. R. Co.

South Omaha, which immediately adjoins Omaha, is the third largest packing center in the world, and has an estimated population of 30,000. The packing industries located here include plants of the

Cudahy Packing Company,

Swift & Company,

Armour & Company,

Omaha Packing Company,

G. H. Hammond Packing Company,

332 which are conservatively estimated to represent a cash investment of more than \$30,000,000.

Council Bluffs is located on the Iowa side of the Missouri River, about three miles inland and directly opposite Omaha. This city is the county seat of Pottawattamie County, and has a population of about 28,000. Three large steel bridges span the Missouri River between Omaha and Council Bluffs; two of these are used by steam railroads, and over the third is operated a street railway line connecting the two cities.

All of these cities are experiencing a substantial and consistent growth, and in consequence are a better field than ever before for the operation of the electric light and power business.

The Company has the following capitalization and shows the following earnings:

Capitalization.

Capital Stock:

Preferred issued.....	\$481,800
Common "	2,007,500
Total	<u>\$2,489,300</u>

First Mortgage Bonds:

Issued and outstanding.....	\$1,580,000
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Earnings Year Ending May 31, 1905.

333 Gross receipts.....	\$379,187.36
Operating Expenses and taxes.....	254,519.62
Net earnings	<u>\$124,667.74</u>
Bond interest.....	73,979.19
Surplus	<u>\$50,688.55</u>

I wish to call your attention to the fact that the company makes an arbitrary charge of \$40,000 per annum against depreciation, and carries this charge directly in the item of "Operating Expenses and Taxes." But for this charge it would show net earnings of more than double the interest on the outstanding first mortgage bonds.

The company shows an increase in excess of 13% in its gross receipts over the corresponding twelve months preceding; and for the first five months of the calendar year shows an increase of 17% as compared with the first five months of the year 1904.

Property.

The company generates its electrical energy from an economical type of central station of brick and steel construction, having an electrical output in excess of 5,000 horse power. Its generating machinery consists of compound condensing engines, direct connected to General Electric dynamos, with the exception of one General

334 Electric 1,500 kilowatt steam turbine installed during 1905. The station is well located, being about one-half mile from the retail center of the city of Omaha. It rests on a parcel of land about two acres in extent, which adjoins the Missouri River, and the tracks of the Chicago, Burlington & Quincy Railroad Company, so that it is in a position to procure economically its water for condensing purposes and its coal supplies.

The company's distributing system is extensive, in good condition, and includes a recent investment of approximately \$250,000 for underground construction in the business district. Upon the absorption of the South Omaha Company, it extended its high tension circuits to that city, and constructed there a modern substation which derives its power from the central station in Omaha. The electricity for electric light and power in Council Bluffs is also produced at the main central power station in Omaha.

Contracts.

The company has contracted with the city of Omaha to provide street lights for the city until December 31, 1908. It also has a contract with the City of South Omaha to provide street lights until October 26, 1909.

Bond Issue.

335 The total authorized issue of bonds of the Omaha Electric Light & Power Company is \$3,000,000 of which amount \$1,580,000 are now issued and outstanding. The balance of \$1,420,000 may be issued for 80% of the cost of permanent improvements, and then only provided the net earnings of the company are one and one-half times the interest charges on all the bonds outstanding, including those proposed to be issued, with the exception that escrow bonds may be issued in exchange, dollar for dollar, for the underlying bonds of the Council Bluffs Company. This issue is secured by a first lien on all the property, rights and franchises of the company now owned or to be hereafter acquired and is also a first lien on over 99% of the capital stock of the Citizens Gas & Electric Company of Council Bluffs, Iowa.

Sinking Fund.

By terms of the Trust Deed, the company must pay to the Trustee on or before December 31, 1908, and continuing annually up to and including the year ending December 31, 1931, a sum in cash equal to 5% of the gross earnings of the company. All moneys so paid to the Sinking Fund shall be invested by the trustee in the first mortgage bonds of the company at prices not exceeding 105 and accrued interest. Bonds so purchased with Sinking Fund moneys shall be kept alive and the interest accruing therefrom shall be added to the general Sinking Fund.

Management.

336 The company has the following Board of Directors:
Frederick A. Nash, President—Western Traffic Manager
Chicago, Milwaukee & St. Paul Railway Co.

George W. Holdrege, General Manager Burlington & Missouri
River Railroad Co.

Henry W. Yates, President Nebraska National Bank of Omaha.
C. E. Yost, President Nebraska Telephone Co.

Guy C. Barton, President Omaha & Council Bluffs Street Railway
Co.

Edward W. Hart General Manager Council Bluffs City Water
Works Co.

George E. Claflin, Vice President Omaha Electric Light & Power
Co.

The Omaha Electric Light & Power Company and its predecessor corporation have successfully carried on the electric light and power business in Omaha and vicinity for a period of more than fifteen years. The stock of the company is in the hands of strong holders, being largely owned by interests closely identified with the General Electric Company, and by prominent holders in Omaha.

Franchises.

The franchises of the Omaha Electric Light & Power Company in Omaha, are in the opinion of our counsel, unlimited in time and satisfactory from a business standpoint.

337 Yours respectfully,
(Signed)

FREDERICK A. NASH,
President.

The title, franchise, and all proceedings incident to the bond issue have been passed upon by our attorneys, Messrs. Ropes, Gray & Gorham, of Boston.

The property of the company has been examined by our experts and the accounts, statements, earnings, etc., have been audited by accountants.

Delivery will be made at any bank desired, express prepaid, payable with exchange.

Telegrams may be sent at our expense.

PERRY, COFFIN & BURR,
60 State Street, Boston.

Telephone 6156 Main.
Circular No. 107.

338

COMPLAINANT'S EXHIBIT A. J. W. M.

Agreement entered into this 29th day of October, one thousand eight hundred and eighty three between The Edison Electric Light Company, hereinafter called the Light Company, party of the first part, and The Edison Electric Illuminating Company of Newburgh, a corporation, organized and existing under the laws of New York, and hereinafter to be called the Newburgh Company, party of the second part.

Witnesseth:

Whereas, the Edison Electric Light Company is the owner of the Letters Patent specified in Schedule A, hereto annexed, and is by the terms of certain agreements with Thomas Alva Edison, dated November 15, 1878, and January 12, 1881, entitled to all inventions or improvements of the said Edison relating to the same subject heretofore made, or which may hereafter be made by him within the period of five years from the twelfth day of January, 1881;

And Whereas, the Newburgh Company is desirous to acquire the exclusive right to use said inventions and Letters Patent, and all of them, for the purpose of electric lighting and generating, regulating and applying electrical currents in an electric lighting circuit for producing light heat and power according to the means and methods of the Edison lighting system, within the Corporate limits
339 of the City of Newburgh, N. Y.

Now it is agreed as follows:

First. The Light Company agrees to license the Newburgh Company, for the sole and exclusive use, within the territory above defined, namely, within the Corporate limits of the City of Newburgh, N. Y. of the said inventions under said Letters Patent for the life of said Letters Patent and each of them, and any and all reissues thereof, which shall be the property of the Light Company, upon the terms, conditions and considerations hereinafter named.

Second. The Newburgh Company agrees that it will diligently and in good faith proceed to occupy all of said territory by Central Station lighting equipment, and will establish at least one central lighting station at a cost, exclusive of real estate and wiring houses, of at least thirty eight thousand dollars within three months from the date hereof.

Third. In consideration of, and in compensation for the rights and privileges hereby granted, the Newburgh Company agrees to pay and deliver to the Light Company (1) a sum in cash equal to
340 twenty five per cent of its entire capital stock now or at any time hereafter to be created, authorized or issued. (2) A yearly royalty of two dollars (\$2) per horse-power of the rated maximum capacity for producing electrical currents of the dynamo machines or other apparatus provided by it in its Central station lighting equipment provided, however, that this royalty shall be deferred and not commence to count until the Newburgh Company shall have earned a dividend of at least ten per cent per annum or its equivalent on its first capitalization and provided

further that said royalty shall terminate with the expiration of the patent specified in exhibit "A" hereto annexed, which shall be of the longest duration.

The sums in cash shall be paid from time to time prorata out of all cash called in and paid upon subscriptions to its capital stock, but not less than twenty two hundred and fifty dollars shall be paid on or before the 1st day of December, 1883. It is mutually understood and agreed that the Light Company shall subscribe at par to twenty per cent of the entire capital stock of the Newburgh Company now or at any time hereafter to be created authorized or issued, the Light Company to pay cash for said subscriptions, for which the Newburgh Company will issue its stock fully paid, without liability to further assessment or call, and all subscriptions on the part of the Light Company and payments or delivery of shares on the

341 part of the Newburgh Company, shall be made immediately upon the creation, authorization or issue of the original or any increased amount of capital stock.

The yearly royalties shall be paid on the first days of January and July in each year. Such royalties shall be assessed upon all machines which shall have been placed or been in position for use at any time during any semi-annual period before the date of such semi-annual payment; provided, however, that no new machine or apparatus shall be assessable until it shall have been in position at least ninety days.

In case the Newburgh Company shall at any time wish to discontinue the use of any machine or apparatus which shall have been liable to assessment, it shall give notice to the Light Company of its desire, specifying and identifying such machine, and thereupon, and after such machine or apparatus shall have been efficiently and in good faith disconnected from the electrical circuit with the intention that it shall not be employed as a part thereof, it shall not, after the next semi-annual date for payment of royalties be liable for assessment until it shall have again been placed in position for use; it being the purpose of this article to provide that new machines and apparatus shall be assessable only after being ninety

342 days in position for use, but that thereafter it or they shall be liable for full royalties for any semi-annual period during which it or they shall have been at any time connected and in position for use.

Fourth. All shares of the Newburgh Company shall be of the par value of one hundred dollars each, and of like tenor and effect, and shall be issued for full payment in cash only.

No bond, mortgage, special stock or other encumbrance creating a preferential charge in priority to its ordinary capital stock, other than such sums as may be temporarily required to meet the current liabilities of the company necessarily incurred for machinery, plant or other material or property required in carrying on its business, shall be created by the Newburgh Company without the consent of the Light Company. The Light Company, however, agrees to give its consent to creating such a preferential charge whenever requested in writing, provided that twenty per centum, in amount, of

the preferential charge thus created shall be given to the Light Company. No accumulated earnings shall be applied to the increase of plant or facilities without the consent of the Light Company.

Fifth. The Newburgh Company and all persons acting under its license or authority, shall purchase all machines, apparatus, 343 articles, methods or devices which are, or are claimed by the Light Company to be, covered by its Letters Patent, from manufacturers in the United States licensed to manufacture by the Light Company.

Sixth. All installations of plants shall be made subject to rules and specifications to be prescribed from time to time by the Light Company, with the view to maintain the best standard in the quality of all machines, apparatus, articles, methods or devices, and in the manner of employing the same.

None of the patented articles controlled by the Light Company shall, without its consent, be used in connection with any machines, apparatus, articles or devices not covered by its patent.

Seventh. The Newburgh Company agrees that it will give to the Light Company prompt notice and efficient and exclusive control of all proceedings at law or in equity, instituted against it or any of its sub-licensees or customers, affecting the validity of the Light Company's Letters Patent or any of them, and the Light Company, shall assume control of the same, pay all the damages that may be received and bear the expense of the proceedings.

Eighth. The Light Company shall upon the request of the Newburgh Company, but at its charge, apply to it all the necessary drawings, specifications and directions for the installation of 344 any of the patented machines, apparatus, articles, methods or devices covered by this agreement.

Ninth. It is understood that the Light Company is not now engaged in manufacturing, but that it will endeavor to secure fair and uniform prices to all its licensees, and especially to secure to the Newburgh Company and its sub-licensees under this contract, terms as favorable as are given to any purchasers in like amount in the United States.

Tenth. The Light Company shall have the option at any time to receive capital shares at par instead of the five per cent in cash herein above provided for, and this option may be exercised in respect to any subsequent issue or increase of stock or any part thereof at the time of such issue or increase.

Eleventh. This agreement does not apply to or authorize the use of the Light Company's patented devices for the propulsion of lighting of railway trains or tram-cars, steamboats or marine craft of any kind, or the furnishing of power for railway traffic, or upon tramways or common roads; nor for any purpose except electric lighting on land (other than railway lighting), and the supplying of heat or power in such an electric lighting circuit.

Twelfth. The rights and privileges hereby conveyed or intended to be conveyed, shall be revocable at the option of the Light 345 Company after five years, as to so much of the licensed territory as shall not at that time, and after six months' notice

from the Light Company so to occupy, have been occupied by a complete and connected central station lighting equipment.

It shall be, in like manner, at the option of the Light Company to rescind this contract, and to revoke all rights and privileges granted hereunder for breach by the Newburgh Company, of the conditions of payment above stated, or for breach of the condition prohibiting the use of machines, apparatus, articles, methods or devices not covered by the Light Company's patents; or for breach of the condition prohibiting the creation of a bond, mortgage, or preferential charge without the consent of the Light Company except as herein otherwise contained; provided, however, that such option shall not be exercised unless the breach complained of shall be continued by the Newburgh Company, or any licensee or customer for thirty days after notice and demand of performance duly given in writing by the Light Company. Where such a breach is by a licensee or customer of the Newburgh Company, the revocation shall affect only the right and privilege of such sub-licensee or customer, which shall thereupon revert in the Newburgh Company, which shall not again license such sub-licensee or customer without the consent of the Light Company.

346 Thirteenth. None of the rights or privileges hereby created or conferred by the Light Company shall be assignable or transferred by or for the Newburgh Company, except in the ordinary course of its business in selling light, heat or power to customers, from a central lighting station, or in selling, or permitting the use of lamps, meters or other necessary articles to central station customers, or in selling machines, apparatus, articles or devices for use in isolated lighting, within the limits mentioned in the second recital hereof.

All such rights and privileges shall, ipso facto, cease and revert in the Light Company from the bankruptcy, dissolution, winding up or cessation from business of the Newburgh Company.

Fourteenth. The Newburgh Company covenants and agrees that it will acquire and have, and possess the legal right and authority, which may be necessary for installing and operating central lighting stations and the appurtenant equipment, as a continuing condition precedent of the exclusive rights and privileges hereby granted; and all such rights and privileges may be in like manner revoked by the Light Company for failure of the Newburgh Company to acquire and to continue in possession of such necessary powers and authority for a period of six months after demand and notice in writing by the Light Company, specifying the

347 powers and privileges necessary as above stated, and which have not been acquired or are not then possessed by the Newburgh Company.

Fifteenth. The Light Company represents and covenants that no grant of territory or authorized installation of its patented devices has been made by or for it within the limits mentioned in the second recital hereof, except as specified in Schedule "B" hereto annexed.

Sixteenth. The Newburgh Company shall at the same time that

it gives any order for lamps or other patented articles or apparatus, communicate a copy of such order to the Light Company for preservation among its accounts and for use in its accounting with licensed manufacturers.

Seventeenth. No power of revocation hereby reserved to the Light Company shall be exercised until after reasonable notice in writing by the Light Company of the breach complained of, and a continuance by the Newburgh Company in such breach notwithstanding such notice. Thirty days shall be considered reasonable notice in respect to every breach of condition except failure to acquire and possess the legal rights and authority referred to in the Fourteenth Article hereof, and as to any such breach the right of revocation shall not be exercised until six months after such notice and a continuance of such failure.

Eighteenth. The Light Company hereby authorizes the Newburgh Company to sell within the territory granted to it, all the
348 necessary or requisite plant, apparatus or material for isolated lighting, and to confer upon the purchaser thereof all the rights and privileges necessary for the use of the purchased apparatus for the use for which it was purchased which could be conferred by the Light Company, the Newburgh Company providing all requisite capital for the purpose of such isolated business.

Nineteenth. The Newburgh Company shall on the first days of January and July in each year make a full report to the Light Company, verified by the officer best acquainted with the details purporting to be given in such report, of the business of the Newburgh Company for the preceding six months, and the Light Company shall have the right to prescribe a form or forms for such purpose, and shall also have the right and all facilities at reasonable times by its properly authorized agents to examine the books and accounts of the Newburgh Company.

Twentieth. The Newburgh Company agrees that in furnishing light, heat and power, or in furnishing lamps or other apparatus to consumers, it will exact from them such conditions in respect to the use of such lamps and other apparatus as the Light Company may require; but this stipulation is not intended to control the Newburgh Company in fixing prices to its customers.

349 The Newburgh Company shall not furnish lamps, dynamos, meters, or any other of the apparatus of the Edison system of lighting, to parties outside of its own territory, or to parties for the purpose of sending the same outside of said territory, but binds itself in good faith to exercise its best endeavors to prevent any and all such sales. And it is agreed that if any of such articles are sold or used outside of the said territory, the Newburgh Company shall be responsible for any damages to the Light Company or its licensees, unless the Newburgh Company shall not have been able, acting in good faith, to prevent the same; the said damages to be fixed by the arbitration of three arbitrators, of whom the Light Company shall name one, the Newburgh Company one, and these two, a third, the decision of a majority to be binding.

Twenty-first. The Newburgh Company admits and acknowledges

the validity of all Letters Patent for inventions specified in Schedule A, and will so admit and acknowledge the validity of all other Letters Patent which may belong to the Light Company under agreements with Thomas Alva Edison, and the validity and the utility of the inventions therein described and claimed, and agrees that it will not in any case violate, infringe or contest the validity of any such patents, or the sufficiency of their specifications, or the validity of the title of the Light Company to any such patents or any of them, or aid or encourage others in so doing.

Twenty-second. The term "Central Station Lighting Equipment" signifies all the engines, dynamo machines, conductors, regulators, meters and other apparatus employed in the business of Central Station Lighting, as herein defined.

The terms "Edison System" and "Edison Lighting System" signify the system of generating, distributing and applying electric currents according to the patents of the Light Company, specified in Schedule A, as the same now exists or as it may hereafter be modified by Thomas Alva Edison, or the Light Company.

The term "Central Station Lighting" means all lighting by electricity where the current is generated at a common source to be distributed and sold to more than ten consumers in the general manner in which illuminating gas is now distributed and sold.

The term "Isolated Lighting" means all lighting by electricity where the source of supply is owned or controlled by the person or persons by whom the light is actually employed or consumed, in the manner now commonly in use for the lighting of private houses or manufactories by a private gas generator owned or controlled by the consumer.

In witness whereof the parties hereto have caused these presents to be subscribed by their proper officers, thereunto duly authorized, and their corporate seals to be hereunto affixed, the day and year first above written.

THE EDISON ELECTRIC LIGHT CO.,

By S. B. EATON, *President*.

[SEAL.]

THE EDISON ELECTRIC ILLUMINATING CO.
OF NEWBURGH,

By ROBERT ROGERS, *President*.

[SEAL.]

Attest:

F. S. HASTINGS, *Sec'y*.

Attest:

M. C. BELKNAP, *Secretary*.

The Edison Electric Light Company.

65 FIFTH AVENUE, *New York*, — — —, 188—.

The following corrections and alterations approved.

Page 4 this copy. Page 3, line 13, Erase the words "have the right to."

Page 4 this copy. Page 5, Line 12, Erase the words "fully paid."
 Page 5 this copy. Page 6, Line 12, After the word "same" insert
 the words "Pay all damages that may be received."
 Page 7 this copy. Page 8, Line 1, After the word "Company"
 insert the words "except as herein otherwise contained."

THE EDISON ELECTRIC LIGHT CO.,
 By F. S. HASTINGS, *Treas'r.*
 THE ELECTRIC ILLUMINATING CO. OF
 NEWBURGH,
 By ROBERT ROGERS, *Pres't.*

353

SCHEDULE "A."

No.	Date.	Title of patent.
214,636.	April 22, 1879.	Improvement in Electric Lights.
214,637.	" 22, 1879.	" Thermal Regulators.
218,166.	August 5, "	" Magneto-electric Ma- chines.
218,167.	" 5, "	" Apparatus for Elec- tric Lights.
218,866.	" 26, "	" Electric Lighting Ap- paratus.
219,393.	Sept. 9, "	" Dynamo-electric Ma- chines.
219,628.	" 16, "	" Electric Lights.
222,881.	Dec. 23, "	" Magneto-electric Ma- chines.
223,898.	Jan. 27, 1880.	Electric Lamp.
224,329.	Feb. 10, "	Electric Lighting Apparatus.
227,226.	May 4, "	Safety Conductor for Electric Lights.
227,227.	May 4, "	Electric Light.
227,228.	" 4, "	" "
227,229.	" 4, "	" "
228,617.	June 8, "	Brake for Electro-magnetic Motors.
230,255.	July 20, "	Method of Manufacturing Electric Lamps.
237,732.	Feb. 15, 1881.	Electric Light.
238,868.	March 15, "	Manufacture of Carbons, Incandescent Lamps.

354

239,147.	March 22, 1881.	System of Electric Lighting.
239,148.	" 22, "	Treating Carbons for Electric Lamps.
239,149.	" 22, "	Incandescing Electric Lamp.
239,150.	" 22, "	Electric Lamp.
239,151.	" 22, "	Method of forming enlarged ends on Carbon Filaments.
239,152.	" 22, "	System of Electric lighting.
239,153.	" 22, "	Electric Lamp.
239,372.	" 29, "	Testing Electric Light Carbons.
239,373.	" 29, "	Electric Lamp.

239,374.	"	29,	"	Regulating the Generation of Electric Currents.
239,745.	April	5,	"	Electric Lamp.
240,678.	"	26,	"	Webermeter.
242,896.	June	14,	"	Incandescent Electric Lamp.
242,897.	"	14,	"	" " "
242,898.	"	14,	"	Magneto or dynamo-electric machine.
242,899.	"	14,	"	Electric Lighting.
242,900.	"	14,	"	Manufacturing Carbons for Electric Lamps.
242,901.	"	14,	"	Electric Meter.
248,416.	Oct.	18,	"	Manufacture of Carbons for Electric Lamps.
248,417.	"	18,	"	Manufacturing of " " Electric Lamps.

355

248,418.	Oct.	18,	1881.	Electric Lamp.
248,419.	"	18,	"	Electric Lamp.
248,420.	"	18,	"	Fixture and Attachment for Electric Lamps.
248,421.	"	18,	"	Current Regulator for Dynamo-electric Machines.
248,422.	"	18,	"	System of Electric Lighting.
248,423.	"	18,	"	Carbonizer.
248,424.	"	18,	"	Fitting and Fixture for Electric Lamps.
248,425.	"	18,	"	Apparatus for Producing High Vacuums.
248,426.	"	18,	"	Apparatus for Treating Carbons.
248,427.	"	18,	"	Apparatus for Treating Carbons.
248,428.	"	18,	"	Manufacture of Incandescent Electric Lamps.
248,429.	"	18,	"	Electric Motor.
248,430.	"	18,	"	Electro-Magnetic Brake.
248,433.	"	18,	"	Vacuum Apparatus.
248,434.	"	18,	"	Governor for Electric Engines.
248,435.	"	18,	"	Utilizing Electricity as a Motive Power.
248,436.	"	18,	"	Depositing cell for Plating the Connections of Electric Lamps.
248,437.	"	18,	"	Apparatus for Treating Carbons.
251,536.	Dec.	27,	"	Vacuum Pump.
251,537.	"	27,	"	Dynamo-Electric Machine.
251,538.	"	27,	"	Electric Light.

356

251,539.	Dec.	27,	1881.	Electric Lamp.
251,540.	"	27,	"	Carbon for Electric Lamps.
251,541.	"	27,	"	Electro-Magnetic Motor.
251,542.	Dec.	27,	1881.	System of Electric Lighting.
251,543.	"	27,	"	Electric Lamp.
251,544.	"	27,	"	Manufacture of Electric Lamps.
251,545.	"	27,	"	Electric Meter.

251,546.	"	27,	"	Electric Lamp.
251,547.	"	27,	"	Electric Governor.
251,548.	"	27,	"	Incandescent Electric Lamp.
251,549.	"	27,	"	Electric Lamp and the Manufacture thereof.
251,550.	"	27,	"	Magneto or Dynamo-electric Machine.
251,551.	"	27,	"	System of Electric Lighting.
251,552.	"	27,	"	Underground Conductor.
251,553.	"	27,	"	Electric Chandelier.
251,554.	"	27,	"	Electric Lamp and Socket.
251,555.	"	27,	"	Regulator for dynamo-electric machine.
251,556.	"	27,	"	Regulator for dynamo-electric machine.
251,557.	"	27,	"	Webermeter.
251,558.	"	27,	"	"
251,559.	"	27,	"	Electrical Drop-Light.
12,631.	"	27,	"	Design for an Incandescent Electric Lamp.

357

263,133.	August 22, 1882.	Dynamo or Magneto-electric machine.
263,134.	" 22, "	Regulator for dynamo or magneto-Electric machines.
263,135.	" 22, "	Electric Lamp.
263,136.	" 22, "	Regulator for dynamo or magneto-electric machines.
263,137.	" 22, "	Electric Chandelier.
263,138.	" 22, "	Electric Arc light.
263,139.	" 22, "	Manufacture of carbons for Electric Lamps.
263,140.	" 22, "	Dynamo-electric machines.
263,141.	" 22, "	Straightening carbons of electric incandescent lamps.
263,142.	" 22, "	Electrical distribution system.
263,143.	" 22, "	Magneto or dynamo electric machines.
263,144.	" 22, "	Mold for carbonizing incandescents.
263,145.	" 22, "	Making incandescents.
263,146.	" 22, "	Dynamo or magneto-electric machines.
263,147.	" 22, "	Vacuum apparatus.
263,148.	" 22, "	Dynamo or magneto electric machines.
263,149.	" 22, "	Commutator for dynamo or magneto-electric machines.
263,150.	" 22, "	Magneto or dynamo-electric machine.
263,878.	Sept. 5, 1882.	Magneto or dynamo electric machine.

358

264,642.	Sept. 19, 1882.	Electric distribution and translation system.
264,643.	" 19, "	Magneto-Electric machine.
264,645.	" 19, "	System of conductors for the distribution of electricity.
264,646.	" 19, "	Dynamo or magneto-electric machine.
264,647.	" 19, "	Dynamo or magneto-electric machine.

264,648.	"	19,	"	Dynamo or magneto-electric machine.
264,649.	"	19,	"	Dynamo or magneto-electric machine.
264,650.	"	19,	"	Manufacture of Incandescing electric lamp.
264,651.	"	19,	"	Incandescent Electric Lamp.
264,652.	"	19,	"	Incandescent Electric Lamp.
264,653.	"	19,	"	Incandescent Electric Lamp.
264,654.	"	19,	"	Incandescent Electric Lamp.
264,655.	"	19,	"	Incandescent Electric Lamp.
264,656.	"	19,	"	Incandescent Electric Lamp.
264,657.	"	19,	"	Incandescent Electric Lamp.
264,658.	"	19,	"	Regulator for dynamo-electric machines.
264,659.	"	19,	"	Regulator for dynamo-electric machines.
264,660.	"	19,	"	Regulator for dynamo-electric machines.
264,661.	"	19,	"	Regulator for dynamo-electric machines.
264,662.	"	19,	"	Regulator for dynamo-electric machines.
264,663.	"	19,	"	Regulator for dynamo-electric machines.
264,664.	"	19,	"	Regulator for dynamo-electric machines.
359				
264,665.*	Sept.	19,	1882.	Regulator for dynamo-electric machines.
264,666.	"	19,	"	Regulator for dynamo-electric machines.
264,667.	"	19,	"	Regulator for dynamo-electric machines.
264,668.	"	19,	"	Regulator for dynamo-electric machines.
264,669.	"	19,	"	Regulator for dynamo-electric machines.
264,670.	"	19,	"	Regulator for dynamo-electric machines.
264,671.	"	19,	"	Regulator for dynamo-electric machines.
264,672.	"	19,	"	Regulator for dynamo-electric machines.
264,673.	"	19,	"	Regulator for dynamo-electric machines.
264,698.	"	19,	"	Electric Lamp.
264,737.	"	19,	"	Incandescing electric lamp.
265,311.	Oct.	3,	"	Electric lamps and holders for same.
265,774.	"	10,	"	Maintaining temperature in webermeters.
265,775.	"	10,	"	Electric arc light.
265,776.	"	10,	"	Electric lighting system.

265,777.	"	10,	"	Treating carbons for electric lamps.
265,779.	"	10,	"	Regulator for dynamo-electric machines.
265,780.	"	10,	"	Regulator for dynamo-electric machines.
265,781.	"	10,	"	Regulator for dynamo-electric machines.
265,782.	"	10,	"	Regulator for dynamo-electric machines.
265,783.	"	10,	"	Regulator for dynamo-electric machines.
265,784.	"	10,	"	Regulator for dynamo-electric machines.
265,785.	"	10,	"	Dynamo-electric machine.
265,786.	"	10,	"	Apparatus for the electrical transmission of power.
360				
265,858.	Sept.	10,	1882.	Regulator for dynamo-electric machines.
265,859.	"	10,	"	Regulator for dynamo-electric machines.
266,447.	"	24,	"	Electric incandescent lamps.
266,588.	"	24,	"	Vacuum apparatus.
266,793.	"	31,	"	Electrical distribution systems.
268,205.	Nov.	28,	"	Dynamo or magneto electric machines.
268,206.	"	28,	"	Incandescing electric lamps.
271,613.	Feb.	6,	1883.	Manufacture of incandescing electric lamps.
271,614.	"	6,	"	Shafting.
271,615.	"	6,	"	Governors for dynamo electric machines.
271,616.	"	6,	"	Regulators for dynamo-electric machines.
271,628.	"	6,	"	Secondary batteries.
271,654.	"	6,	"	Regulators for dynamo electric machines.
273,485.	March	6,	1883.	Incandescing electric lamps.
273,486.	"	6,	"	Incandescing electric lamps.
273,487.	"	6,	"	Regulators for dynamo-electric machines.
273,488.	"	6,	"	Regulators for dynamo-electric machines.
273,491.	"	6,	1883.	Regulators for driving engines of electrical generators.
273,492.	"	6,	"	Secondary batteries.
273,493.	"	6,	"	Valve gear for electrical generator-engines.
273,828.	"	13,	"	System of underground conductors for electrical distribution.
274,290.	"	20,	"	Systems of electrical distribution.

361

274,291.	March 20, 1883.	Molds for carbonizing.
274,292.	" 20, "	Secondary batteries.
274,293.	" 20, "	Electric Lamps.
274,294.	" 20, "	Incandescing electric lamps.
274,295.	" 20, "	Incandescing electric lamps.
274,296.	" 20, "	The manufacture of incandescents.

Schedule "B."

Isolated Plants Installed in Newburgh Previous to October 1st, 1883.

James Taylor	125 lamps
James Harrison	126 lamps

License.

This license agreement made the 29 day of October, in the year 1883, by and between the Edison Electric Light Company, a corporation created under the laws of the State of New York, hereinafter called the Light Company, licensor, party of the first part, and The Edison Electric Illuminating Company of Newburgh, a corporation created under the laws of the State of New York, hereinafter called the Newburgh Company, licensee, party of the second part; witnesseth.

Whereas the Light Company is the owner of inventions and of Letters Patent of the United States for inventions of Thomas Alva

Edison relating to the development of electric currents or to
362 the application of electricity to the use of lighting, heating and power as specified in the schedule, marked A, annexed to a certain agreement between the parties hereto dated the 29th day of October, 1883, and is entitled to acquire further inventions of the like character which have been already, or may be at any time before January 12th, 1886, made by said Edison, and also all Letters Patent of the United States which have been, or may, within the period last named, be granted for all and any of the said inventions;

And whereas the Newburgh Company is desirous of acquiring the exclusive right to use in the territory herein defined all such inventions and Letters Patent aforesaid for the uses of lighting, heating and power as hereinafter also expressly defined and limited:—

Now it is agreed as follows:—

First. The party of the first part, licensor, hereby licenses the party of the second part the full and exclusive right within and for the territory herein defined, in the third article, to use by itself or its customers, as prescribed in Clause A of this Article, and for the purposes authorized in the fourth article hereof, and for no other purposes, all the inventions and Letters Patent of the United States referred to in the preamble hereof which the Light Company now owns or may own at any time within the period of the operation of this agreement, so far as the same are embodied or
363 used in the plant, machinery, lamps, materials, means and

appliances which are lawfully acquired by said Newburgh Company under said contract, dated Oct. 29, 1883.

Clause A. The right of the customers of said Newburgh Company to use the inventions hereby licensed to it extends and is limited to the use by those persons, associations or corporations only whom it shall supply as customers in the ordinary course of the business which it is authorized to do, and so long only as such persons shall be such customers and shall perform duly all the terms of the contracts under which they became customers.

Second. The right licensed to the party of the second part in the Letters Patent and inventions referred to in the first article hereof shall continue as to each thereof so long as the Light Company's right in such inventions and Letters Patent shall continue, except as herein otherwise specially agreed, but provided and so long only as said party of the second part shall perform its part of this agreement.

Third. The territory within and for which the right defined in the first article hereof is now licensed to the Newburgh Company, and in and for which the provisions of this instrument now operate is the City of Newburgh.

364 Fourth. The right hereby licensed embraces the use of all inventions and Letters Patent described in said agreement between the parties hereto, which the licensor may at any time during the operation of this instrument then own or control, for the purposes of producing, controlling, conducting, measuring and using electricity or electric currents for any of the objects named in clauses 1, 2 and 3 of this article and for no others, namely:

Clause 1. Lighting by electricity streets and all other open air places, and public or private buildings of every description.

Clause 2. Applying electricity or electric currents to the uses of power for domestic or industrial purposes in an electric lighting circuit.

Clause 3. Heating public and private buildings of every description by the use or by means of electricity or electric currents.

Fifth. The parties agree that this license does not embrace or authorize the use of any of the aforesaid inventions or Letters Patent, or any means of employing the same, for any purpose not specifically mentioned herein, nor especially in or for propelling railway trains, or furnishing power for any uses of railway traffic, or on tramways or common roads; nor for any of the purposes described in the fourth article, on steamships, ferry-boats, sailing vessels, or
365 marine craft of any description. And it is agreed that this enumeration does not include all forbidden uses.

Sixth. It is mutually agreed by the parties hereto that this instrument gives only a license and right to use the inventions and Letters Patent covered by it, and only within the territory licensed hereby and otherwise as herein provided, and does not give any right to make or vend any of said inventions covered by any of said patents except to customers for isolated use within said territory.

Seventh. If the Newburgh Company shall fail to pay any part of the consideration provided in the contract aforesaid, for thirty days after the same is due, or if it shall wilfully fail to perform, or shall

violate any of the terms or conditions of that contract or of this license, and shall persist in such default or violation for thirty days, after notice, or shall become bankrupt or insolvent, or shall cease to possess the legal rights and powers requisite to carry on the business of central station lighting, including the right to occupy streets and highways, the licensor may in either of the cases aforesaid, at its option, by written notice to the Newburgh Company, stating such default or violation or other ground of its action, forthwith
366 terminate all rights granted by this instrument.

Eighth. The right hereby licensed to the party of the second part is personal to it and not assignable, and it covenants and agrees that it will not assign or attempt to assign this instrument or any of the rights granted to it to any other person or corporation without the consent in writing of the licensor, and upon any assignment or attempted assignment of such rights, made or attempted to be made, by the party of the second part, or resulting by operation of law, or upon any other divesting of the title or right of said party of the second part hereunder, this license and all rights granted hereby shall, at the election of the licensor, be thereupon forfeited, cancelled and annulled.

Ninth. The party of the second part admits the validity of all patents now or hereafter held by the licensor, and also the validity of its title thereto so far both as to validity and title as such patents relate to uses of the inventions described therein which are granted or licensed hereby; and it agrees that it will not during the operation of this agreement dispute such validity of either patents or title, or use, license, or be interested in any inventions or patents relating to
367 electric lighting, or to the production of electric currents, or their application to the uses of either lighting, heating or power other than those licensed to it by the licensor, or engaged in any business for, or use or promote any other system, mode or means of employing electricity for lighting, heating or power, except such as may be operated with the inventions or under the patents of the licensor, or as shall be expressly authorized by it.

Tenth. All words used herein which are descriptive of any customers of the party of the second part shall include all persons associations or corporations whatever who shall be such customers.

Eleventh. The covenants and agreements of the several parties hereto shall bind and enure to the benefit respectively of the successors and assigns of the Light Company and of the successors of the Newburgh Company.

Twelfth. This license may be at any time revoked in the manner provided in the agreement executed between the Light Company and the licensee, to which this license is attached, and upon any such revocation being lawfully made all rights and privileges arising under this license shall revert in the Light Company free and discharged of this agreement and license.

In witness whereof the said the Edison Electric Light Com-
368 pany, party of the first part, and the said The Edison Electric Illuminating Company of Newburgh, party of the second part, each has caused these presents to be subscribed by its President,

and each has caused its corporate seal to be hereunto affixed and attested by its Secretary the day and year first above written.

Territory to which this License applies: City of Newburgh.

ROBERT ROGERS, *President*. [SEAL.]

Attest:

M. C. BELKNAP, *Secty.*

Endorsed: (118) Agreement between The Edison Electric Light Company and The Edison Electric Illuminating Co. of Newburgh. Dated Oct. 29th, 1883.

Endorsed: Filed May 9 1912. R. C. Hoyt Clerk.

369 Thereupon afterwards, to-wit: On the 12th day of July, 1912, Depositions on behalf of the Respondent and Complainant were filed in said case, which said Depositions are in words and figures following, to-wit:—

370 UNITED STATES OF AMERICA:

District Court of the United States Within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,

vs.

THE CITY OF OMAHA, Respondent.

Appearances:

William D. McHugh, Esq., for the Complainant.

William C. Lambert, Esq., and B. S. Baker, Esq., For the Respondent.

Stipulation.

It is hereby stipulated and agreed by and between the parties in the above entitled cause that the evidence may be taken in said cause on the part of the respondent, and the complainant, to be used in the trial of said cause, the evidence to be taken at the office of William C. Lambert, City Hall, Omaha, Nebraska, on Wednesday, July 10th, 1912 at 9.30 o'clock a. m., before Wm. S. Heller, Notary Public, in all respects as though the said Wm. S. Heller were an Examiner of said Court, all notice of the time and place of the taking of said depositions being hereby waived, and it being agreed that the said Wm. S. Heller shall ask the depositions and testimony, and certify to the same, and deposit the same with the Clerk of said Court in all respects as if he were an examiner

371 of said court, *court*, all objections as to the form and style of the caption and the certificate, and transmission of the said testimony being hereby waived, and the signatures of the witnesses to their respective depositions is hereby expressly waived, the parties hereto waiving all objections to the form of the questions

asked, except as specifically made at the time of the taking of the depositions.

WILLIAM D. McHUGH,
Solicitor for Complainant.
WILLIAM C. LAMBERT,
Solicitors for Respondent.

372

Evidence.

CHARLES D. WOODWORTH, of lawful age, being by me first duly sworn according to law, testified as follows in behalf of the respondent:

Direct examination by Mr. WM. C. LAMBERT:

Q. State your name?

A. Charles D. Woodworth.

Q. You reside in the city of Omaha?

A. Yes, sir.

Q. How long have you lived in Omaha?

A. Oh, it is so long ago that I have pretty near forgotten. It is about 45 years ago I guess. I came here to the city of Omaha in 1866.

Q. What has been your business here?

A. At the present time I am in the contracting business.

Q. For how long a time have you been in the contracting business?

A. Oh, along about 1880 I guess.

Q. That is 1880?

A. Yes, sir.

Q. And what is the general nature of your business as a contractor, Mr. Woodworth?

A. Oh, I have been in the grading business, and the sand business, and the sidewalk and paving business.

Q. What official position did you hold in the city of Omaha in the years 1883 and 1884?

A. I judge I must have been in the Council at that time
373 although I have not looked it up to verify my guess.

Q. Can you say now whether or not you were a council man and elected to that position in April, 1884?

A. I think I was. I do not know the exact dates. I know that it is close in there though.

Q. At that time, I will ask you to state if Champion S. Chase was elected the Mayor of Omaha?

A. Yes, sir. He was the mayor. I think that he was elected the same time I was.

Q. Is he now dead?

A. Yes, sir.

Q. And was P. F. Murphy acting as Mayor also?

A. He was Acting Mayor.

Q. And is he now dead?

A. Yes, sir.

Q. I will ask you to state if the following were elected councilmen at large in April 1884 in the city of Omaha: P. F. Murphy, Charles Coffman, C. D. Woodworth, I. S. Hascall, W. M. Anderson, J. P. Redfield?

A. Yes, sir.

Q. And of that number how many—of those I have mentioned, how many are living?

A. I guess I am the only one?

Q. You are the only one?

A. Yes, sir.

Q. I will ask you to state if the following named were
374 elected as councilmen from the different wards at that time: First Ward, C. C. Thrane; Second Ward, J. F. Behm; Third Ward, Pat Ford; Fourth Ward, W. F. Bechel; Fifth Ward, Ed. Leeder; Sixth Ward, J. B. Furay?

A. Yes, sir; they were all elected at that time.

Q. And of that number how many are now living?

A. They are all dead but Leeder and Behm.

Q. You served out the term of two years for which you were elected?

A. No, I did not.

Q. For what period did you serve?

A. I could not afford to waste my time.

Q. For what period? how long?

A. I do not remember that.

Q. What?

A. I do not just remember that.

Q. Were you a member of the City Council at the time of the introduction and passage of Ordinance No. 826 of the ordinances of the City, otherwise known as the ordinance granting a franchise to the New Omaha Thompson-Houston Electric Light Company?

A. I have not looked that up. I presume likely I was. It is my recollection that I was. That is going back a good ways.

Q. I will get it more specific. Did you serve during the year 1884 to the best of your recollection?

375 A. Yes, sir. I do not think I resigned until the year 1885.

Q. It was passed within that year?

Mr. McHUGH: It was passed in December.

Q. December 16th, I think it was?

A. If I had known what you wanted to know I could have found our mighty quick, because I have the records in the office that would show when I resigned.

Q. Is it your present recollection that you resigned some time in the year 1885?

A. I think it was in 1885. That is my recollection.

Q. Can you state about what part of the year?

A. I think probably along in March or April.

Q. Mr. Woodworth, do you recollect the introduction, and also

the history of the passage of the ordinance referred to, being Ordinance 826?

A. Only generally.

Q. In a general way?

A. That is all.

Q. Do you now recall any of its provisions?

A. No, I do not. I just remember the Electric Light & Power Company matter. John Clarke is my recollection was boosting the proposition.

Q. Mr. Woodworth, do you recall any discussion of this ordinance or its provisions either by any committee or by the council as a committee of the whole while the ordinance was pending, 376 and before its passage, or at the time of its passage?

A. No, there was nothing to call it specially to my attention. I just remember in a general way there was such an ordinance passed, but then the conditions of it I have not the slightest idea. That is going back too far for me.

Q. Of course, as a councilman you probably considered the ordinance and voted for it I believe all the time?

A. I guess the record shows that. I cannot go back on the record.

Q. Now, Mr. Woodworth, I will ask you to state what was your purpose—that is, what were you intending to obtain for the city in the passage of this ordinance?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. Well, Sir, I will have to say that I cannot recollect what it was. I do not remember.

Q. I will ask you to state if it was not the purpose of obtaining light, both for the streets and for the inhabitants—electric light?

Mr. McHUGH: Objected to by the *plaintinant* as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose 377 in voting upon the same.

A. The only thing I have to say, as I said before, I would have to say the title shows that—electric light and power.

Q. But you had some purpose in voting for it, did you not, Mr. Woodworth, to obtain something? You intended to obtain something for the city?

A. I presume likely I had some good reason for voting for it but it is taxing my memory a good ways when I have nothing special to call it to my mind.

Q. I will ask you this question: At the time that this ordinance was introduced and passed you knew as a matter of fact that electric current was devoted largely to the production of light, in the making of light?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same?

A. At that time that was the only thing I knew about it. I did not know anything about any power production, only as the title.

Mr. McHUGH: I move to strike the answer as not responsive to the question.

Q. You knew at that time that its use for light was fairly well developed, and more or less extensively used?

378 Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial, and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. Yes, sir.

Q. You knew nothing at that time of its adaptation in the production of power? i. e., electric current adaptation?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. Personally I knew nothing about the power proposition, only what was shown. I at the time had some connection with the Sperry Electric lighting, and J. H. Millard and some others and myself, and a lot of suckers got into it.

Q. Was that after or before?

A. It was before. Sperry was the head of the Thompson-Houston.

Q. I will ask you, Mr. Woodworth to examine the copy of ordinance No. 826 as set forth in the bill of complaint. (Handing same to the witness.) State if that is the ordinance or the title to which you referred as containing the expression electric light and power?

379 A. I judge from the number that is the one I refer to.

Q. As a matter of fact it don't refer to power at all, does it, either in the title or the body, as far as you can tell?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. No, sir.

Q. In 1884, or prior to that time, do you now recall ever seeing any any application of electric current in the production of power,

or any device or apparatus which could use electric light in the production of power?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. I never saw it.

Q. Mr. Woodworth, the complainant has introduced in evidence some excerpts and editorials from both the Omaha Bee and the Omaha Herald, at that time, and possibly the Omaha Republican, of excerpts from the daily papers published in Omaha in the years 1879, 1880, 1881 and up to September, 1884; these excerpts discussed more or less the application of electric current to machinery in the production of power, and also related to experiments that were being conducted at different places in the east, especially such as the Franklin Institute in Philadelphia and the Edison Exhibition at Menlo Park, New Jersey. I will ask you to state if you recall ever having seen or read any of those articles?

A. I do not recollect, no, sir.

Q. Do you now recall any discussion in the council or between the councilmen at the time that this ordinance was pending, and before its passage, or any discussion among the citizens of this city with reference to the employment of electrical energy in the production of power?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. I have no recollection of it.

Q. Or the people who were asking the franchise—I believe you said John T. Clarke?

A. My recollection is John Clarke was one of the boosters.

Q. Whether or not in promoting this and in advocating its passage he referred to the features of the production of power?

Mr. McHUGH: Objected to by the complainant as being
381 leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. I have no recollection of it.

Q. You have no recollection of it?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony

of an individual member of the legislative body as to his purpose in voting upon the same.

A. No recollection.

Q. Do you have any recollection of any one discussing it?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. No, sir. 28 years is quite a while to remember something.

Q. I grant that, but I want to get your recollection as best you have?

A. I presume likely at the time the ordinance was passed it was all gone over thoroughly, and I presume I had my say as well as everybody else, but I do not remember it now.

Q. At that time the city of Omaha did not have an electric
382 plant furnishing light at all?

A. No, sir.

Q. This was the first one that began?

A. I think the Sperry Electric Light was the first.

Q. Did it actually operate?

A. Yes: I do not know—we did not have any contract with the city; and theirs was a private proposition. That is my recollection. I think the Thompson-Houston was the first one that furnished the light for the city.

Q. As far as you now recollect and know was the purpose of the city council in granting this franchise to procure the furnishing of electric light to the city, and to the inhabitants of the city, and the furnishing of nothing else in the way of power or heat?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. I would say from the title of the ordinance it was not contemplated.

Mr. McHUGH: I move to strike the answer of the witness as not responsive.

Q. And from anything that occurred, or any discussion that you now recall, would you say it was not contemplated?

383 Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. As far as I can remember it was not contemplated.

Cross-examination.

Questions by Mr. W. D. McHUGH:

Q. You have testified, Mr. Woodworth that you have no recollection of the discussion covering the question of furnishing power?

A. Yes, sir.

Q. Now you mean by that that you have no recollection about it?

A. That is it.

Q. You do not intend to testify that there was no discussion of the fact that this company might furnish light and power?

A. I say I have no recollection of it.

Q. That might have been discussed and gone from your memory?

A. Yes, sir.

Q. Nothing has occurred between 1884 and now to call this to your recollection?

A. I never thought of it until Mr. Lambert spoke about it.

Q. You have said that you never had seen at that time any
384 appliance whereby electric current was utilized for power purposes?

A. That is my recollection at this time.

Q. But you knew at that time that there were such appliances in existence, did you not?

A. Well, if there was anything in the papers I noticed it. I took the papers.

Q. You took the Omaha Bee? And you read the news and the editorials?

A. Yes, sir.

Q. And you were fairly abreast of the times?

A. I presume so.

Q. And you knew about Edison's work in a general way in electricity?

A. Yes, I presume likely I did.

Q. And if there were descriptions in the Omaha papers of Edison's plants and appliances you would have read it?

A. I must have known about it, because at the time, as I remarked before, I had some money in with others in the Sperry Electric Light Company, and I must have known something about it.

Q. So you had an interest in electrical matters?

A. Yes, sir.

Q. And followed the current newspaper information about it?

A. Yes, sir; it must have looked good, because I coughed
385 up all right.

Q. You say that from the title of the ordinance you infer power was not considered. That is only an opinion now from the ordinance?

A. That is all.

Q. What you intended in the passage of the ordinance was that the company should get the right to do business, and that the ben-

efit that would come to the city would be from the utilization of that business by the people of the city of Omaha?

A. I must have understood that the city would get some benefit from it or I would not have voted for the ordinance.

Q. The obligation was on the people to operate the plant?

A. Yes, sir.

Q. And the benefit would come to the city in having the plant operated?

A. Yes, sir.

Q. That is undoubtedly the fact. Now, the purpose that you had was—in other words, that the people of the city of Omaha should have the benefit of the use of electricity, was it not?

A. I guess there is no doubt about it.

Q. And whatever benefit there was in any use of electricity furnished to the homes you wanted, and the purpose was to have the people of the city of Omaha enjoy that benefit, that was the purpose?

386 A. I guess that is right.

Q. You understood that the business of that company would be to generate electricity in a central plant?

A. Yes, sir.

Q. And to distribute that electricity around through the streets and public places, to the homes and places of business in the city?

A. I presume that was the case, although I—I would not be specific.

Q. That would be your idea of it?

A. Yes, sir.

Q. Now you intended that this company should engage in the business of generating and distributing to the people of Omaha electrical current?

A. I would say the ordinance would show that better than my memory.

Q. You have been asked, and brought up here as a witness to testify from recollection, and that is all I have asked you, don't you see?

A. I presume likely that is so.

Q. To the best of your recollection that would be so?

A. Yes, sir.

Q. And you wanted them to engage in the business of generating and distributing electricity so that the people could utilize that electricity for their purposes in their premises and in their
387 places of business? so far as you can recall that was the purpose, was it not?

A. I would hardly want to put my imperfect recollection against the ordinance itself.

Q. But I am talking about, so far as you can recollect?

A. Yes, sir.

Q. You understood at the time, that outside of the arc lights, which were maintained and operated by the company under a contract with the city, that the company did not engage in the business of furnishing lights in the homes, did you not? To make my question clear, the company furnished electrical current to the homes

and the *homes, and the* individual owner of the home, or the place of business, would put in the fixture that would utilize the current for making light?

A. Yes, sir.

Q. You understood all that?

A. On the same principle that the gas company furnishes fixtures if we pay for them.

Q. If you pay for them, of course?

A. Yes, sir.

Q. In other words the function of the company was—the business of the company was, as you understood to generate and distribute electrical current to the houses and residences and places of business, was it not?

A. Yes, sir.

Q. And the people in the houses, residences or places of
388 business could utilize that energy for their own purposes in their own way? That is what you understood to be the function of the company?

A. That is my understanding of it, yes, sir.

Q. This was not the only franchise that was granted by the city of Omaha with respect to electric companies, was it?

A. I could not tell you.

Q. To refresh your recollection: this is not the ordinance that John T. Clarke was pushing. John T. Clarke was behind one called the Northwestern Electric Light & Power Company.

A. I guess that is right.

Q. That ordinance was granted to this one, was it not?

A. I could not tell you.

Q. You do not remember about that?

A. No, sir.

Q. But there in the title the company was electric light and power company, was it not?

A. That is what I have in mind.

Q. That is what you had in mind?

A. Yes, sir.

Q. So that that title conveyed knowledge that the function of the company was to distribute electricity to be utilized both for light and power?

A. Yes, sir. I suppose the two were one.

Q. The ordinances were one?

389 A. Yes, sir.

Q. You understand that if the function of the company was to generate and distribute electricity that it could be used for light and power? that fact you knew?

A. Yes, sir.

Q. You not only read the daily papers, Mr. Woodworth, but you read magazines?

A. Oh, I presume likely I did. I always have.

Q. And you recollect, without recalling any specific article, or any specific magazine, you recollect that before that time you had read magazine articles with respect to Edison's development of the

uses of electricity for light and power and heat and other purposes before this time without recalling the particular magazine or article? you remember that you read about it in the magazines, do you not?

A. Well, I read all the papers and a good many magazines no doubt. No doubt I read whatever was going at the time.

Q. You simply now——

A. I do not remember.

Q. You have no recollection?

A. I have no recollection.

Q. And absolutely no recollection of what occurred outside of the passage of the ordinance?

A. No.

Q. None at all?

A. No, sir.

390 Q. You have no recollection of the discussion between the aldermen themselves, and no recollection of the discussion between them and the people to whom this franchise was granted?

A. No, sir.

Q. None at all?

A. No, I have nothing to call it to my mind.

Redirect examination.

Questions by Mr. W. C. LAMBERT:

Q. You are at present a user of electrical current in your home?

A. Yes, sir.

Q. And use it probably for light?

A. Yes, sir.

Q. And incandescent lamps?

A. Yes, sir.

Q. And for ironing possibly?

A. No.

Q. And the running of any motor or fan?

A. No.

Q. You use it for light anyhow?

A. Yes, sir, light and power both.

Q. What was the nature of the power?

A. Motor, for the sewing machine.

391 Q. And you know as a matter of fact that in various homes here that in a small way at least electrical current is used for running irons in the home?

A. Yes, sir.

Q. And running washing machines?

A. I have got one in my house now, but for some reason it has not been used. I do not know why.

Q. As a matter of fact there are several establishments now at this time that are operating machinery by electrical power in town, factories and that sort of thing?

A. All my power—I would use electric power if I could get it. Pretty near everything I have got is gasoline.

Q. You know as a matter of fact that at various places it is being used?

A. Yes, sir, oh, my, yes.

Q. You were asked by Judge McHugh if you did not understand that current was simply furnished to the home, and that the consumer used his own fixtures in devoting it to light and power purposes?

A. Yes, sir.

Q. That is true at the present time?

A. Yes, sir.

Q. In the majority at least?

A. Yes, sir.

Q. I will ask you if that was true to your knowledge for some years after 1884?

392 A. No, I did not see much of it for ten years after that.

Q. Do you know of its use anywhere for something like ten years?

A. I think just about ten years after that that I used it myself.

Q. Before that time did you know of its use anywhere else by individuals?

A. I do not recall it.

Q. So it was a considerable period after the passage of this ordinance before you now recollect having any knowledge of the use of electrical current for any other purpose than light?

A. I remember some of the factories were using it, but it was fully ten years after that I used it myself. I will put it that way.

Q. How long before any of the factories used it to your knowledge? what would be your best recollection at this time?

A. Well, sir, I would not want to say off hand because there is nothing to call it to my mind.

Q. It was several years?

A. It was several years anyway.

Q. So the first use of the current furnished under the franchise to which your attention was called, so far as you now know was devoted exclusively to the production of light, either for lighting the streets or light in the homes?

393 A. I could not say exactly as to that.

Q. I mean as far as you know and recollect?

A. As far as I remember.

Q. That is it. Mr. Woodworth, you were asked by Judge McHugh if you did not understand that the main purpose in granting the ordinance was to secure such benefits to the city at large as might come in the development of the business, and if that was not your purpose in granting the franchise. I will ask you to state if as a matter of fact your purpose in granting the franchise, and the only purpose that you had in mind, and in contemplation at that time, was the furnishing of electrical current for lighting purposes?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an

individual member of the legislative body as to his purpose in voting upon the same.

A. The furnishing of electric current for light or any other purpose.

Q. But as a matter of fact at that time you had no knowledge of any other purpose for which it could be furnished?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony
394 of an individual member of the legislative body as to his purpose in voting upon the same.

A. I have no recollection of it.

Q. You did know of light at that time?

A. I would say off hand, and the further fact that we were voting this company that ordinance would be that we thought the city would get some benefit out of it.

Q. That benefit as you recall was the light benefit?

Mr. McHUGH: Objected to by the complainant as being leading, incompetent, irrelevant and immaterial and not being competent to affect the meaning and scope of an ordinance by testimony of an individual member of the legislative body as to his purpose in voting upon the same.

A. Yes, sir, and whatever might follow.

(Witness excused.)

By agreement of the parties hereto the signature of the witness to the foregoing deposition is hereby expressly waived.

395 Mr. LAMBERT: The respondent offers in evidence Exhibit

A, the same being the following extracts and sections from the charter of the City of Omaha as found in the Compiled Statutes of Nebraska for 1883, the same being Section 15, Sub-divisions 8 and 24 of said Section 15, of Chapter 13; the same being received without objection, it being admitted that the City of Omaha in the years 1883 and 1884 was a city of the first class and governed by city charter.

EXHIBIT A.

SEC. 15. (Powers of Council.) The mayor and council of each city created or governed by this act, shall have the care, management and control of the city, its property and finances, and shall have power to pass any and all ordinances not repugnant to the constitution and laws of this state, and such ordinances to alter, modify, or repeal, and shall have power,—

* * * * *

8th. (Light streets—gas.) To provide for the lighting of streets, laying down of gas-pipes and erection of lamp posts, and to regulate the sale of gas, and rent of gas-meters within the city.

* * * * *

24th. (Streets.) To care for and control, to name and rename streets, avenues, parks and squares within the city; to provide for the opening, vacating, widening and narrowing of streets, avenues, and alleys within the city under such restrictions and regulations as may be provided by law.

Mr. LAMBERT: The respondent offers in evidence Exhibit B, the same being Sub-division 8 of Section 15, Chapter 13, of the Session Laws of the state of Nebraska for the year 1885, the same being a part of the amendatory act to the charter of the city of Omaha for the years 1883 and 1884.

There being no objection, same reads as follows:

EXHIBIT B.

8th. To provide for the lighting of streets, laying down of gas pipes and erection of lamp-posts, and to regulate the sale and use of gas and electric lights, the charge for electric light and the rent of gas-metres within the city, and to require the removal from the streets, avenues and alleys, and the placing under ground of all telegraph, electric and telephone wires.

Mr. LAMBERT: The respondent offers in evidence Exhibit C, the same being the answer of the City of Omaha in the case of The Omaha Electric Light & Power Company against the City of Omaha and Waldemar Michaelson, Docket "Y," page 105, in the Circuit Court of the United States for the District of Nebraska, Omaha Division, being the case mentioned in the bill of complaint and answer herein.

No objection was offered.

397

EXHIBIT C.

In Equity.

OMAHA ELECTRIC LIGHT AND POWER COMPANY

vs.

THE CITY OF OMAHA and WALDEMAR MICHAELSON.

Docket Y, Page 105.

Answer of the City of Omaha and Waldemar Michaelson to the Bill of Complaint.

I.

These defendants, saving to themselves all and all manner of benefit of exception or otherwise that can or may be had or taken to the many errors, uncertainties and imperfections in said bill contained, for answer thereto, or to so much thereof as these defendants are advised it is material or necessary for them to make answer to, answering *said*:

II.

Defendants referring to paragraph one of the bill admit that the Omaha Light and Power Company is a corporation and is a citizen of the State of Maine; and defendants allege that said plaintiff has not filed a copy of its articles of incorporation in the office of the Secretary of State of the State of Nebraska, and therefore not entitled to do business in the state of Nebraska, or to acquire franchises or other rights or privileges in the streets of the city of Omaha; and defendants admit that the City of Omaha is a municipal corporation existing under the laws of the state of Nebraska, and a citizen thereof, and that Waldemar Michaelson is City Electrician of said City, and a resident of said city; that this suit is a controversy between citizens of different states and that the matter in dispute in said controversy exceeds exclusive of interest and costs, the sum of \$2,000.00.

III.

These defendants further answering said bill and referring to paragraph three thereof deny that the city of Omaha during the year 1884 or at any other time did by ordinance grant to the New Omaha-Thompson-Houston Electric Light Company, and its assigns, the privilege, license and franchise for the erection and maintenance of poles and wires with all needful appurtenances thereto, upon and over the streets, alleys and public grounds of said city; and defendants deny that in December, 1884, the Mayor and City Council of the city of Omaha passed the ordinance which is set out in complainant's bill as Ordinance No. 826, and deny that the purported copy of Ordinance No. 826 of the City of Omaha as set forth in complainant's bill is a correct copy of said ordinance. With reference thereto defendants admit that the City Council

398 in 1884 passed General Ordinance No. 826 purporting to grant certain rights and privileges in and over the streets of the City of Omaha to the Omaha New Thomson & Houston Electric Light Company or its assigns; and defendants further allege that at the time said Ordinance No. 826 was passed there was no person, association, partnership or corporation existing by the name of Omaha New Thomson & Houston Electric Light Company, and there was no person, association, partnership or corporation capable of accepting, taking, or holding any of the rights, privileges, permits or licenses attempted to be granted under said Ordinance No. 826, and that said Ordinance No. 826 by reason of the premises was null and void, and conveyed no rights or privileges or licenses to any person, firm or corporation. That said ordinance conferring the rights, privileges and licenses therein contained upon a certain corporation, to-wit: Omaha New Thomson & Houston Electric Light Company, and upon no other person, firm or corporation; and defendants further allege that neither at that time nor at any time since has there existed any person, firm, partnership or corporation named or known as the Omaha New Thomson & Houston Electric Light Company, and therefore none of the rights, licenses or privileges sought to be

conferred and granted by ordinance No. 826, have been received, accepted by or vested in any person, firm, partnership or corporation.

IV.

That after the approval of said Ordinance No. 826, to-wit: on or about the 28th day of September, 1885, there was incorporated for the first time under the laws of the State of Nebraska, a corporation under the name of New Omaha Thomson-Houston Electric Light Company, which corporation was not in existence when Ordinance No. 826 was passed and approved. That in the year 1899 the City Council of the City of Omaha passed Ordinance No. 4569, in words and figures as follows:

Ordinance No. 4569.

An ordinance amending an ordinance numbered 826 entitled: "An ordinance granting the right of way to the Omaha New Thomson-Houston Electric Light Company and regulating the same and prescribing penalties for the violation of this ordinance."

Whereas, Ordinance No. 826, entitled: "An Ordinance granting the right of way to the Omaha New Thomson & Houston Electric Light Company and regulating the same and prescribing penalties for the violation of this ordinance," passed December 16th, A. D. 1884, granting certain privileges and franchises therein defined and regulating the exercise of the same and prescribing penalties for the violation of said ordinance by mistake named the "Omaha New Thomson & Houston Electric Light Company," as grantee, and

399 Whereas, the intention was to name the New Omaha-Thomson-Houston Electric Light Company" as such grantee, which is the true name of the corporation to which said privileges and franchises were granted.

Be it Ordained by the City Council of the City of Omaha:

SECTION 1. That ordinance No. 826 entitled: "An Ordinance granting the right of way to the Omaha New Thomson & Houston Electric Light Company and regulating the same and prescribing the penalties for the violation of this ordinance" be and the same hereby is amended to read as follows, to-wit:

Ordinance No. 826.

An ordinance granting the right of way to the New Omaha-Thomson-Houston Electric Light Company and regulating the same and prescribing penalties for the violation of this ordinance.

Be it Ordained by the City Council of the City of Omaha:

SECTION 1. That the New Omaha Thomson-Houston Electric Light Company, or assigns, is hereby granted right of way for erection and maintenance of poles and wires, with all the appurtenances thereto, for the purpose of transacting a general electric light busi-

ness through, upon and over the streets, alleys, and public grounds of the city of Omaha, Nebraska, under such reasonable regulations as may be provided by ordinance, Provided that said company shall at all times, when so requested by the city authorities, permit their poles and fixtures to be used for the purpose of placing and maintaining thereon any wires that may be necessary for the use of the fire department or police of the city, and, Provided further, such poles and wires shall be erected so as not to interfere with the ordinary travel through such streets and alleys, and, Provided, that whenever it shall be necessary for any person to move along or across any of said streets or alleys any vehicle or structure of such height or size as to interfere with any poles or wires so erected,—the company using and operating such poles or wires, shall upon receiving twelve (12) hours' notice thereof, temporarily remove such poles and wires from such places as must necessarily be crossed by such vehicles or structure; and provided further, that whenever the city council, shall by ordinance declare the necessity of removing from the public streets or alleys of the city of Omaha, the telegraph, telephone or electric poles or wires thereon, constructed or existing, said company shall within sixty (60) days from the passage of such ordinance remove all poles and wires from said streets and alleys by it constructed, used or operated.

SECTION 2. Any person who shall interfere —, cut, injure, 400 remove, break, or destroy, any of the poles, wires, fixtures, instruments or other property of the New Omaha Thomson-Houston Electric Light Company or association within the corporate limits of this city, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined in any sum not exceeding one hundred dollars.

SECTION 3. This ordinance shall take effect and be in force from and after its passage.

SECTION 4. This ordinance amending ordinance No. 826 shall take effect and be in force from and after its passage.

Passed April 25, 1899.

BEECHER HIGBY,

City Clerk.

W. W. BINGHAM,

President City Council.

Approved May 1st, 1899.

FRANK E. MOORES, *Mayor.*"

That Ordinance No. 4569 was not an ordinance granting any privileges or franchises to the New Omaha Thomson Houston Electric Light Company, said ordinance attempting only to change the name of the grantee in ordinance No. 826, and by reason of the premises did not confer any right, privileges or franchises upon the said New Omaha Thomson Houston Electric Light Company, and defendants allege that said company never had or acquired from the city of Omaha any right, privilege, license or franchise to construct, maintain or operate an electric light plant in the city of Omaha, or to use the streets, alleys or public grounds of said

city for wires, conduits or poles to transmit electric current for any purpose, and that said complainant does not now and never has acquired, held or possessed from the city of Omaha any such privilege, license, franchise or right; that the said New Omaha Thomson Houston Electric Light Company was a trespasser upon and over the streets of said city wherever it occupied the same with poles, wires or conduits, and that the same is at present true of the complainant herein.

V.

Defendants further allege that at the time ordinance No. 4569 was passed by the council and approved by the Mayor the said mayor and city council had no power to grant a franchise or any of the privileges which the complainant is now exercising in and over the streets of the city, or such privileges as the New Omaha Thomson Houston Electric Light Company exercised in and over the streets of said city, without submitting the question of granting such license privileges and franchises to a vote of the electors of the city of Omaha, publishing the ordinance for two weeks in
401 two established daily papers of said city, and providing for an annuity to the city based upon a fixed reasonable amount per year, as a percentage on the gross earnings of the owners of said franchises; that said provisions of the law were not complied with prior to the passage and approval of ordinance No. 4569, nor at any other time.

VI.

Defendants further allege that as it was sought by ordinance No. 4569 to grant and confer upon a corporation certain rights, privileges and franchises which corporations had not been organized and did not exist at the time ordinance No. 826 was passed and approved, that said ordinance No. 4569 by reason of not being submitted to a vote of the people, and by reason of not complying with the other provisions of the state law then in force, was illegal, null and void, and conferred no rights, privileges or franchises upon the said New Omaha Thomson Houston Electric Light Company.

VII.

Defendants further answering said bill and referring to paragraph five thereof, admit that the New Omaha Thomson Houston Electric Light Company was a corporation organized under the laws of the state of Nebraska for the purpose of maintaining lines of wire conducted — suspended upon poles for the transmission of electric current for the production of light; but defendants deny that the New Omaha Thomson Houston Electric Light Company accepted the grant of rights, licenses and privileges which the city undertook to confer in Ordinance No. 806 and deny that said corporation was capable of taking, accepting or holding such rights, privileges or licenses; that defendants are not informed as to the amount of moneys expended by said corporation in the erection of an electric light plant and the purchase of machinery for generat-

ing electric currents, but admit that said corporation did expend certain sums of money for such purposes and defendants ask that so far as said allegation may be material that complainant be required to make adequate proof thereof; that said New Omaha Thomson Houston Electric Light Company during its existence did maintain poles and wires or subways for the transmission of electric current from its general station to the various points throughout the city, and was engaged in furnishing such current to consumers, but defendants deny that said corporation or its successor, complainant herein, had any legal license, franchise or privilege so to do.

402

VIII.

Defendant further answering said bill and referring particularly to paragraph six thereof admit that in 1902 the city of Omaha enacted an ordinance requiring all electric and other wires when used for electric lighting, heat, power and other commercial purposes, except for propelling street cars, and telegraph and telephone wires, to be placed under ground in certain portions of the city of Omaha; that a copy of said ordinance is marked Exhibit A, and attached to complainant's bill. That said New Omaha Thomson Houston Electric Light Company had no right, license or franchise to occupy the streets of the city at the time said ordinance was passed for the purpose of transmitting electric current by means of poles, wires or conduits, and consequently said ordinance attached to complainant's bill and marked Exhibit A was in effect and in fact an attempt to confer upon said corporation a franchise to occupy the streets of the city of Omaha, and said ordinance and the passage and approval thereof being in violation of the laws of the state of Nebraska, was and is null and void.

IX.

Defendants further answering said bill and referring particularly to paragraph seven thereof admit that complainant was organized prior to the expiration of the corporate franchise of the New Omaha Thomson Houston Electric Light Company and that it was intended by those who organized said complainant corporation that it should become the successor of the said New Omaha Thomson Houston Electric Light Company, but deny that the said New Omaha Thomson Houston Electric Light Company sold, assigned or transferred to the plaintiff any right, license or privilege to occupy the streets of the city of Omaha with poles, wires, or conduits, for the transmission of electric current, and allege the fact to be that if the said New Omaha Thomson Houston Electric Light Company possessed any such right, privilege or franchise it could not sell or dispose of such licenses, privileges or franchises without the consent of the said city of Omaha, which consent defendants allege was not given to any such sale or transfer. Defendants admit that the complainant has complied with the provision of the alleged ordinance requiring that its wires be placed under ground in certain districts of the city.

X.

Defendants further answering the bill of plaintiff herein admit that for some time after 1884 electric currents for producing power or heat had not been extensively developed, and that electric current adequate for street and inside lighting *are* required to

403 be of a high potentiality; but defendants deny that the city granted a franchise as alleged in paragraph eight and deny that it had been the universal custom of companies engaged in generating and distributing electric currents for light to supply consumers with current for such uses as consumers may see fit to make of same; defendants deny that in transmitting current to consumers it has been the universal custom to furnish the current to the consumer and permit him to use same for all purposes that he may see fit, and defendants allege that it would be entirely immaterial so far as the issues of this case are concerned, even were it true. Defendants admit that the use of electric current is not always under the control of the company when upon the premises of the consumer, and that it may be converted into light as termed by the plaintiff in its bill, upon the premises of the consumer; and defendant deny that the business of the company generating and distributing electric currents is merely to supply the current to the consumer, and deny that the consumer may use said current for heat, power, or light, as he sees fit, regardless of the desire or wishes of the company generating same. But on the other hand defendants allege that the electric current so produced and distributed by the generator thereof may be and is controlled as to the use thereof by the consumer to whatever extent that the company producing the same may desire and see fit to control it; defendants admit that in the conversion of such current into power and heat the apparatus by which the consumer converts the current into light is often removed temporarily and the apparatus for producing power or heat is connected by him with the supply conductor from which he takes the current for light, without any action on the part of the company who supplies the current, but defendants allege that this course is not at all necessary and if the plaintiff is not entitled to furnish electric current for heat and power purposes, it is within its power to so conduct its business with its consumers that the current so furnished shall not be utilized for purposes of heat or power; and defendants admit that for the supply of consumers who require a large number of power units, the complainant maintains in said city five exclusive conductors suspended upon the same pole lines or drawn into the same conduits with its other circuits; and defendants allege that complainant has made a different use of the streets and alleys where current has been furnished for heat and power purposes from that where current has been furnished only for light in that a greater number of wires have been used on poles and in conduits and a greater volume of current has been transmitted over, along or under the streets of the city; and

404 defendants admit that the said New Omaha Thomson Houston Electric Light Company, and that the plaintiff has continu-

ously used the streets alleys and public places of the city for the transmission of electric current for heat and power purposes.

XI.

Defendants further answering said petition and referring specially to paragraph nine thereof, deny that since 1884 the city has passed ordinances intended to apply to the complainant and its alleged predecessor and to consumers supplied with the electric current by each, except insofar as said ordinances were general and of general application to any and all persons and corporations who were properly using the streets, alleys and public places of the city for the distribution of electric current; and it is admitted that from time to time ordinances were passed regulating the production and distribution of electric currents of every kind, and that the complainant and its alleged predecessor has complied with such regulations; and defendants admit that the city passed ordinances prohibiting persons from using electric currents for power or heat or installing apparatus therefor without filing plans and specifications for the same in the office of the city electrician and obtaining a permit and ordinances requiring the city electrician to inspect installations and repairs and requiring the same to conform to the regulations of the city; and ordinances requiring the city electrician to make certain inspections each year with reference to electricity and electrical appliances and requiring the payment of certain fees for permits; and ordinances requiring persons engaged in commercial lighting and power transmission to furnish the city electrician at stated times a report showing each motor installation put in or discontinued during the month, and ordinances requiring drop wires designed to carry power current to be heavily insulated, and ordinances prohibiting electric light and power wires being attached to the same cross-arm, and not to be suspended upon the same pole line with conductors of low potential currents, like telephone and telegraph wires, and ordinances as alleged in the bill requiring various other regulations with reference to the generation, distribution and consumption of electric currents for light, heat and power; and defendants admit that the city of Omaha has issued permits for various installations to the complainant and its alleged predecessor, and has received the fees therefor from consumers and others, but defendants deny that the city of Omaha knew that the New Omaha Thomson Houston Electric Light Company or the plaintiff claimed to have a perpetual franchise in, along and over the streets, alleys and public places of the city which authorized the use of wires, poles and conduits for the transmission of electric current for light, heat and power. And in that regard defendants allege that the complainant has always known that it did not possess any franchise to use the streets alleys and public grounds of the city of Omaha for poles, wires and conduits for the transmission of electric currents, and that said plaintiff and the said New Omaha Thomson Houston Electric Light Company had nothing but a mere license or permission revokable at the will of the city, to use the streets and alleys for such purposes.

XII.

Defendants further answering said petition, and referring especially to paragraph ten thereof, admit that the New Omaha Thomson Houston Electric Light Company supplied the city of Omaha with street lights by a contract and agreed to pay said city annually a sum equal to three per cent of its gross receipts from light and power business done within the city, and that plaintiff entered into a similar contract with said city, which contract is still in force, and that a copy thereof is attached to plaintiff's bill as Exhibit B, that under the terms of said contract the plaintiff and its alleged predecessors have paid to the city a sum of money, but whether the amount named in the bill is correct or not defendants are unable to state at present; defendants deny that the defendant city has construed plaintiff's license or permission to use its streets as a franchise or has construed any ordinance or ordinances as constituting a license or privilege to the said plaintiff to occupy any of the streets or alleys or public places of the city with its poles, wires or conduits used to transmit electric currents for heat and power purposes as anything other than a mere permission to so use its streets and alleys, revokable at the will of said city; and defendants admit that the use of electricity for the production of power and heat has been greatly developed so that the same has come to be extensively employed by the public for business and manufacturing purposes; and that many business houses have been equipped for the use of electric current in the production of power and have become dependent upon such service; defendants deny that the plaintiff had relied upon the alleged interpretation given to said alleged franchise as alleged, and that depending upon said alleged interpretation it expended large sums of money in the acquisition of the plant of the New Omaha Thomson Houston Electric Light company, and in the extension and equipment of said plant with new machinery, but allege the fact to be as heretofore stated, that the said plaintiff and its predecessor knew that it did not have a franchise for supplying electricity for heat and power purposes and also knew that what it terms a franchise was in fact a mere license revokable at the will of said city.

XIII.

Defendants further answering said bill and referring especially to paragraph eleven thereof, admit that plaintiff's plant has been enlarged from time to time and that the current required for power and heat is demanded principally during the day and that the current for light is largely demanded during the night, and that said plaintiff is able to serve the public at lowest prices, but deny that plaintiff is willing or does in fact serve the public at lowest cost, and deny that plaintiff's plant has been built up in reliance upon the alleged interpretation that it possessed a perpetual franchise to use the streets and alleys of said city.

XIV.

Defendants further answering said petition and referring especially to paragraph twelve thereof, allege the fact to be that the City of Omaha has permitted the said plaintiff, the New Omaha Thomson Houston Electric Light Company, the Omaha & Council Bluffs Street Railway Company, and numerous other persons to use its streets, alleys and other public ground for poles, wires and conduits for the transmission of electric currents, when in fact such firms, persons and corporations had either no right to so use the streets and alleys at all or a mere revocable permit so to do. Defendants allege, however, that such permission on the part of the city has not given the said plaintiff, and none of the ordinances referred to by said plaintiff in its bill have given said plaintiff or its alleged predecessor, any right, privilege or franchise to use the streets and alleys of the city for transmitting current for heat and power purposes, and that said plaintiff does not possess and never has possessed a franchise for such purposes, and to whatever extent its streets and alleys have been so used has been by its permission, which permission it had a right to revoke at any time, and which permission to whatever extent it existed the said city of Omaha has revoked by Concurrent Resolution No. 2330, passed May 26th, 1908, and approved on said date. Defendants admit that the resolution set forth in said bill paragraph twelve was passed by the council and approved by the Mayor and that the said defendant Waldemar Michaelson, City Electrician of said city has served upon the plaintiff the notice set forth in said paragraph. And defendants admit that said Michaelson intends to execute the concurrent resolution aforesaid and

407 will sever the connection of plaintiff's wire conductors so as to prevent the transmission of electric current to consumers for purposes of heat and power, and prevent the restoration of the same unless said plaintiff obtains the right in the manner provided by law to furnish such electric current.

XV.

Defendants further allege that even if as alleged by plaintiff it possessed a franchise to use the streets and alleys of the city of Omaha for wires, poles and conduits, for the transmission of electric current from its generating plant to the consumers throughout the city of Omaha, that such franchise claimed under ordinance No. 826 does not confer any franchise upon said plaintiff to so use the streets, alleys and public places of said city for poles, wires and conduits to transmit electric currents to Council Bluffs, South Omaha, Dundee and other places outside of said city of Omaha; that its sole right under its alleged franchise would be to occupy the streets of said city for the transmission of current at the points within said city of Omaha and that when it generates electric currents for the supply of other cities and places outside of the city of Omaha it adds an additional burden to the streets, alleys and public grounds of said city not authorized by its alleged franchise, and which would and does constitute a violation of the terms and con-

ditions of said alleged franchise and a forfeiture thereof, which said defendant city is entitled to enforce. Defendants deny that carrying into effect the resolution set forth in the bill will interfere with any lawful right of the plaintiff or any legal right of its customers or that such action will cause said plaintiff any loss except that which may be caused by refusing to longer permit said plaintiff to trespass unlawfully upon the streets and alleys of the city, and to usurp rights which in no way belong to said plaintiff.

XVI.

Defendants further allege that ordinance No. 826 and ordinance No. 4569, amendatory thereof, constitute mere licenses revokable at the will of said defendant City, and that at the time said ordinance was passed in 1884 the mayor and city council had no power, right or authority to grant a perpetual franchise to use and occupy the streets of said city and that if said ordinance or ordinances constituted or were intended to grant a franchise, they and each of them were void as being against public policy, said alleged
408 franchises being without any provision for compensation to said city and were therefore against the public policy of the state; that said mayor and city council were prohibited by the laws, constitution and public policy of the state from granting a perpetual franchise in the streets of the city without providing for compensation to said city, and that said ordinances not constituting a franchise were mere licenses for the use and occupancy of the city streets. And defendants further allege that the said concurrent resolution set forth in plaintiff's bill was intended as and constitutes a revocation of any permission that plaintiff or its predecessors at any time possessed to occupy the streets, alleys, or public grounds of said city of Omaha with poles, wires or conduits for the transmission of electric current for heat or power purpose. Defendants allege that plaintiff's bill is without equity and ought to be dismissed.

Wherefore, defendants and each of them pray that the bill of plaintiff be dismissed for want of equity, and that defendants and each of them be allowed their costs expended herein.

THE CITY OF OMAHA AND
WALDEMAR MICHAELSON,
By HARRY E. BURNAM,
I. J. DUNN,
JOHN A. RINE,

Their Attorneys.

Mr. LAMBERT: The respondent offers in evidence Exhibit D, the same being the replication in the same case, Docket Y, page 105 in this court.

To which offer no objection was made.

EXHIBIT D.

Docket Y, Page 105.

OMAHA ELECTRIC LIGHT AND POWER COMPANY

vs.

THE CITY OF OMAHA and WALDEMAR MICHAELSON.

The Replication of Omaha Electric Light and Power Company, Plaintiff, to the Answer of The City of Omaha and Waldemar D. Michaelson, Defendants.

The replicant, saving and reserving to itself, all and all
 409 manner of advantages of exception which may be had and
 taken to the manifold errors, uncertainties, and insuffi-
 ciencies of the answer of the defendants, for replication thereunto,
 says that it does and will aver, maintain and prove its said bill to
 be true, certain and sufficient in the law to be answered unto by the
 said defendants, and that the answer of the said defendants is very
 uncertain, evasive and insufficient in the law to be replied unto by
 the replicant; without that, that any other matter or thing in the
 said answer contained, material or effectual in the law to be replied
 unto, and not herein and hereby well and sufficiently replied unto,
 confessed, or avoided, traversed or denied, is true; all which matters
 and things the replicant is ready to aver, maintain and prove, as
 this Honorable Court shall direct, and humbly prays as in and by
 its said bill it has already prayed.

WESTEL W. MORSMAN,
Solicitor for Complainant.

Mr. LAMBERT: The respondent offers in evidence Exhibit E, the
 same being the deposition of Edward F. Schurig, in Docket Y, page
 105, in the same case, in the Circuit Court of the United States for
 the District of Nebraska, Omaha, Division, the same appearing
 upon pages 32-35 of the transcript of record of said case, and being
 a duly certified transcript, or a part of the transcript of said record,
 to the United States Court of Appeals.

410 Mr. McHUGH: The complainant objects to this offer as
 incompetent, irrelevant and immaterial, and no proper founda-
 tion laid therefor, it being testimony in a cause to which the
 complainant was not a party, and the complainant not having any
 opportunity to examine or cross-examine the said witness.

EXHIBIT E.

In Equity.

OMAHA ELECTRIC LIGHT AND POWER COMPANY
vs.
THE CITY OF OMAHA and WALDEMAR MICHAELSON.

Docket Y, Page 105.

Deposition of Edward F. Schurig.

STATE OF NEBRASKA,
Douglas County, ss:

Edward F. Schurig, of lawful age, being duly sworn, deposes and says:

My name is Edward F. Schurig; am 45 years of age; I reside in Omaha, Nebraska; I am an electrical engineer by profession and I am now president of Standard Electric Company, doing business in the city of Omaha; I was city electrician of the city of Omaha, commencing in 1894 and ending in 1903, and I was, during all that time, acquainted with the system of New Omaha Thomson Houston Electric Light Company in Omaha, and now acquainted with the same system, owned and operated by Omaha Electric Light and Power Company. The said system was, during the whole of the said period, operated for the purpose of generating and transmitting electric current for lighting the streets of the city and also for transmission of such current to private corporations and persons, for such uses as such consumers desired the same. The business of Standard Electric Company of which I am president, is the sale of electrical appliances and devices, and the installation of such devices, for the production of light, heat and power, by means of the electric current.

In the year 1884 the use of electric current had not been extensively and practically applied to mechanical devices, for
411 translating its energy or force into power for the operation of machinery and was employed only in a small way and where small power was required.

Electric current results from what is technically known as electromotive force, the force which produces the transmission or flow of electric energy over a wire or other conductor of electricity. It is itself force or energy, and produces light, heat or useful mechanical power only by being conducted or allowed to flow through the appropriate translating devices.

Electric currents adequate for the production of light are required to be of high potentiality, and may be utilized for either light, heat or power, and currents generated especially for power may also be utilized for the production of light or heat.

It has been the universal custom of all companies and persons engaged in generating and distributing electric current for the produc-

tion of street and inside lighting, to supply consumers with such quantity of current as may be demanded and for such use as the consumer may see fit to make of it.

In supplying private customers, the universal method has always been to transmit the current by means of wire conductors from the generator to the premises of the consumer, to be used by him for any purpose he may require, the current being sold to the customer by measurement.

The current is converted into or made to produce light, by being transmitted or allowed to flow through a lamp upon the consumer's own premises, by means of a switch, manipulated by the consumer, which permits the current to flow through the translating device of the lamp, by which light is produced. The conversion of such electric current or energy into, or the use of the same for the production of useful mechanical powers or heat, is, and has always been done by the consumer himself, upon his own premises, by means of a switch or key manipulated or operated by him which permits the current to flow through a motor or heating device, also controlled, owned and operated by the consumer.

The business of the producing company (except in street lighting) is merely the generation and transmission of the electric current to the premises of the consumer for use by him, and whether the consumer employs the current for the production of light, heat, power or other purposes, the part performed by the producing company is the same—the generating, transmitting to the premises of the consumer, and sale of the electric current, measured by means of a meter.

412 The consumer may, and in practice often does, employ the same current alternately for light, heat, power or other purposes. By attaching a lamp and switching the current "on" light is produced. By removing a lamp and attaching a heating device heat is produced. By removing the heating device and attaching a motor the electric force or energy is applied by means of the motor to the operation of machinery. All such changes are made without any action whatever by the company which supplies the electric current.

The electric company cannot prevent such uses of the current excepting by refusing to supply it.

When the business of the consumer requires the use of the electric current for light and power or heat at the same time, the different translating devices may be connected by different conductors, so that identically the same current delivered to the premises of the consumer by means of the same conductor is divided and distributed by the consumer, upon his own premises, and applied to such uses as he desires.

The use of the streets and public ways of the city for the transmission of electric current is exactly the same, whether the current be employed by the consumer for the production of light, heat, power or other purposes, or for each of such purposes, but the enlarged use of electricity may require more wire conductors than if the use was less.

During the whole of the period when I was city electrician of the city of Omaha the New Omaha Thomson Houston Electric Light Company was engaged in transmitting electric current at and selling the same to consumers generally for the production of power as well as light, and I had official knowledge of the fact, and the mayor and council of said city had such knowledge, and passed ordinances for the regulation of such business. I made many official inspections each year during said period, at the time such installations were made and periodically after the same were made. Ordinances of the city made it my duty to make such inspection and invested me with power to approve or disapprove such installation, to prohibit the same when not properly and safely made, and to prohibit the use of any that became unsafe, and I required many such installations to be made in conformity to the regulations prescribed by the mayor and council, and to my own knowledge of what was necessary to make the same safe. I approved hundreds of such installations during my term of office and no objection was ever made to any if properly installed.

It was never claimed, during my term of office, by the defendant city, that New Omaha Thomson Houston Electric Light Company had no franchise or license to occupy the streets and alleys of said city for the transmission of electric current, which was to be used for the production of power or heat, or that its use of the
413 streets was limited to any particular use or uses of the electric current whatever.

The Omaha Electric Light and Power Company has all of the time, since August 1, 1903, been engaged in the business of transmitting electric current to consumers generally, throughout the city of Omaha, for use in the production of power, heat, and other purposes than light, and said company and New Omaha Thomson Houston Electric Light Company have, to my knowledge, expended large sums of money, in the acquisition, enlargement and improvement of the means and facilities for generating, distributing and reducing the cost of such electric current to persons desiring the same for the production of power and in developing the said business.

The defendant City of Omaha has, during all of the times aforesaid, granted permits and taken fees for such permits for the installation of appliances, devices and motors for the production of heat and power and still issues such permits.

I am engaged in the business of superintending and making such installations for any persons who desire my services and am duly licensed by the said defendant city.

There has never been any company or person engaged in the business of generating and distributing electric current for sale to the public, in the city of Omaha, but the New Omaha Thomson Houston Electric Light Company and Omaha Electric Light and Power Company, excepting that a street car company has distributed such current to a few customers for both light and power, and I believe Omaha Illuminating Company did a small business prior to 1891.

I have no knowledge, so far as I can now recall, of any other matter or thing which may be of benefit or advantage to either party to this suit or material to the matter in controversy, so help me God.

EDW. F. SCHURIG.

Subscribed and sworn to by Edward F. Schurig, before me this 29th day of August, A. D. 1908.

[SEAL.]

H. L. MARTIN,
Notary Public.

414 Mr. LAMBERT: The respondent offers in evidence Exhibit F, the same being the deposition of Henry A. Holdrege, in the same case, appearing at pages 36-39 of the transcript of record of said case to the United States Circuit Court of Appeals, and being a duly certified transcript, or a part of the transcript of said record.

Mr. McHUGH: The complainant objects to the offer as incompetent, irrelevant and immaterial, and no proper foundation having been laid therefor, it being testimony in a case to which the complainant was not a party, and the complainant not having any opportunity to examine or cross-examine the said witness.

EXHIBIT F.

In the Circuit Court of the United States, Within and for the District of Nebraska, Omaha Division.

In Equity. Docket Y, Page 105.

OMAHA ELECTRIC LIGHT AND POWER COMPANY

vs.

THE CITY OF OMAHA and WALDEMAR MICHAELSON.

Deposition of Henry A. Holdrege.

STATE OF NEBRASKA,
Douglas County, ss:

Henry A. Holdrege, of lawful age, being duly sworn, deposes and says, as follows, to-wit:

My name is Henry A. Holdrege; I am 35 years of age; I reside in Omaha; I am now, and since January 1, 1904, I have been General Manager of Omaha Electric Light and Power Company, the plaintiff in the above entitled suit; I am an electrical engineer by profession; I graduated in the Massachusetts Institute of Technology in 1885. I spent one year thereafter as Assistant Instructor in the same institution, and have been, all of the time since, engaged in practical work as an electrical engineer. I am well acquainted with the system of the plaintiff company in Omaha, and I am acquainted with the laws which govern the generation, distribution and application of electricity and the history of its development and practical adaptation to the production of light, heat and power for the operation of machinery.

415 It has been the uniform custom of companies engaged in the generation of electric current for the production of light to also sell the electric current to consumers for the production of power or any other purpose for which it was desired.

I have never known or heard of any company or person engaged in the production and distribution of electric current for the purpose of light which attempted to dictate the purpose for which any person should employ the electric current or to restrict its use by such person to the production of light.

The application of electric power to stationary machinery was not much understood or developed in 1884 and for several years thereafter, but as electric currents employed in the production of light are required to be of high potential, and may be utilized for producing either heat or power, as well as light, all companies have supplied and sold such electric current to consumers for such purposes, whenever demanded.

Light, heat and power are produced only by conducting the electric current through the appropriate translating device and the transmission of the electric current through the public streets and ways is accomplished by the same means and instrumentalities, whether it be employed by the consumer for one purpose or for another.

In supplying the individual consumers with electric current the method is the same whether the consumer employs such current for the production of light, heat or power. The producing company transmits the current by means of its wire conductors constructed in circuits to the premises of the consumer in such volume or quantity as he may require, and the consumer converts it to his use as light, heat or power, according to his wants, upon his own premises, by means of the appropriate translating devices. In the actual business of the plaintiff company there are some minor exceptions, in the case of illuminated signs, these being owned by the company and lighted and extinguished by it, the company receiving an agreed sum monthly for the whole service; but in practically all of the lighting by electricity, in places of business and residences, the Electric company does no more than generate the current and conduct or transmit it to the premises of the consumer, where it is sold to him by measurement.

Practically all of the business or actual operation of every Electric Light Company (excepting street lighting) consists merely in generating and transmitting electric current to the premises of the consumer, to whom it is sold by measurement, and it is the same whether the current be employed for the production of light, heat or power, and the actual business of such companies has never been differently conducted.

The electric current is converted or made to produce light by being conducted by wire conductors through a lamp upon
416 the consumer's premises, and controlled by a switch manipulated by the consumer, who thus opens or closes the flow of current from the source of supply to the lamp, at will, and thus produces light as it is required.

The electric current is also converted into power or heat by the consumer, upon his own premises, and in the same manner, per-

mitting the current to flow from the source of supply through a motor or heating device, owned and operated by the consumer, and by which he thus produces power or heat as it is wanted.

Whether the consumer desires light, heat or power, the part performed by the Electric Company is the same, viz: the generating, transmitting to the premises of the consumer, and sale of the electric current, measured by meter.

The consumer may, and in practice often does, employ the same circuit alternately for the production of light, heat or power, as he may require one or the other. By attaching a lamp, and switching the current "on", light is produced by the flow of the electric current through the translating device of the lamp. By removing the lamp and attaching a heating device heat is produced. By removing the heating device and attaching a motor the electric force or energy is applied by means of the motor to the operation of the machinery. All such changes are made without any action whatever by the company which supplies the electric current, excepting as I have already stated, with reference to some illuminating signs.

The electric company can not prevent such uses of the current, otherwise than by refusing to supply it.

Then the business of the consumer requires the use of the electric current for light and power, or heat,—that is, for two or more purposes at the same time, the different translating devices may be connected by separate conductors to the same supply circuit, so that identically the same current delivered to the premises of the consumer by means of the same conductor is divided and distributed by the consumer, upon his own premises, and applied to such uses as he may desire.

The use of the streets and public ways of a city for the transmission of electric current is exactly the same whether the current be employed by the consumer for the production of light, heat, power or other purposes, or for each of such purposes; but the enlarged use of electric energy may require more conductors and conductors of larger capacity than if the use was not thus enlarged.

The use of the electric current for the production of power applied to stationary machinery has been rapidly and extensively developed within a few years past, and is being still greatly developed by the invention of motors and devices not before used for the conversion of such current into power or heat and by extending the use of such devices and instrumentalities to a great variety of business operations, and the business of Omaha Electric Light and Power Company has been greatly developed since it succeeded to the property and business of New Omaha Thomson Houston Electric Light Company, so that now its income from the sale of current which is applied to the production of power is equal to about $\frac{1}{4}$ of its whole gross income. Among the enterprises to which the company supplies electric current which is employed by the consumer for the production of power, are grain elevators, grist mills, passenger elevators, and almost every variety of stationary machinery, including also small devices like electric fans, sewing machine motors and heating and cooking devices. The company has, in the city of Omaha, approximately, 2500 patrons who, in the prosecu-

tion of their business, make use of the electric current for the production of power or heat, or both.

The company has constructed, extended and improved its generating plant and its distributing system, including its underground conduits, at very great expense, with a view not merely to such business as is now done, but also with a view to the future demand; and the business of distributing such electric currents for such uses is of great value to the public and especially to business requiring power for the operation of machinery of any kind. The investment of the company made necessary by the development of such business, and in anticipation of the growth of the same, exceeds the investment which would have been required if the business of the company were restricted to the sale of current for the production of light by a sum not less than 500,000 dollars.

Since about 1895, to my personal knowledge, and as I am informed and believe, since about 1891, the New Omaha Thomson Houston Electric Light Company and Omaha Electric Light and Power Company have been the only companies or persons engaged in generating, transmitting and selling electric current to persons and corporations within the City of Omaha for the purposes of light, heat and power, excepting that a street car company has supplied a few persons with electric current for both light and power, but, as I am informed and believe without any franchise, license or privilege granted to it by the City of Omaha, for the transmission of electric current through the streets and alleys of said city, for any other purpose than that of propelling street cars.

The City of Omaha has, by its mayor and council passed many ordinances and regulations governing the use of the electric current for the production of power and heat and the installation of conductors, motors and devices for the translation of such current into power and heat and all such installations have been required to be made under supervision and subject to inspection of the City

Electrician, who, by such ordinances has been invested with
418 power to approve or disapprove the same and to require conformity with the regulations established by said city, and to conform in construction, to the judgment and opinion of such City Electrician, in order that the same should be made safe to property and persons. I do not now recall any other fact material or of benefit to either party of this suit, so help me God.

HENRY A. HOLDREGE.

Subscribed and sworn to by Henry A. Holdrege before me this 28 day of August, 1908.

[SEAL.]

H. L. MARTIN,
Notary Public.

419 Mr. LAMBERT: The respondent offers in evidence Exhibit G, the same being the deposition of William F. White, appearing on pages 40 to 44, inclusive, of the transcript of the record of said case to the United States Supreme Court of Appeals, and being a duly certified transcript, or a part of the transcript of said record.

Mr. McHUGH: The complainant objects to this offer as incompetent, irrelevant and immaterial, and no proper foundation having been laid, and it being testimony in a case to which the complainant was not a party, and the complainant not having any opportunity to examine or cross-examine the said witness.

EXHIBIT G.

In the Circuit Court of the United States within and for the District of Nebraska, Omaha Division.

In Equity. Docket Y, Page 105.

OMAHA ELECTRIC LIGHT AND POWER COMPANY
vs.
THE CITY OF OMAHA and WALDEMAR MICHAELSON.

Deposition of William F. White.

STATE OF NEW YORK,
County of —, ss:

William F. White, of lawful age, being duly sworn, depose and says as follows, to-wit:

My name is William F. White; I reside in the city of New York, and am a director and member of the firm of J. G. White & Company incorporated.

I am an electrical engineer and a graduate, in the class of 1887, of the Pennsylvania State College, which college has conferred on me the degree of "Electrical Engineer".

I have been engaged in the business of an electrical engineer practically all of the time since 1887; I was vice-president and later president and general manager of New Omaha Thomson Houston Electric Light Company during the period commencing January 1, 1895, and until the 31st day of December, 1899, and I lived in Omaha during that period and had the active management of the business of that company.

420 I removed from Omaha to Cincinnati and became connected with the Cincinnati Edison Electric Company as vice president and general manager, which company did most of the electric lighting in the city of Cincinnati, and continued in said employment until the first day of May, 1902, when I came to New York, N. Y., as vice president of the North American Company.

I am acquainted with the natural laws governing electricity and the history of its development and practical adaptation to the production of light, heat and power for the operation of machinery and other uses, as such laws are now known and understood by electricians.

During the whole period when I was connected with New Omaha Thomson-Houston Electric Light Company, as I have stated, the system of said company in Omaha was operated for the purpose of

generating and transmitting electric current not merely for lighting public streets, but also for the sale of the same to private corporations and persons for such uses as such consumers desired to make of the same, including power and heat.

The company occupied the streets and alleys of the city under an ordinance of the city passed in 1884, in which the name of the grantee was written as "Omaha New Thomson Houston Electric Light Company", granting the use of the streets and alleys. The name as thus written was a clerical mistake which was not discovered until 1899, when the ordinance was amended by the mayor and council of the city, for the purpose of correcting this mistake, and so that it should read New Omaha Thomson Houston Electric Light Company as grantee. There was not at any time any company named "Omaha New Thomson Houston Electric Light Company", and New Omaha Thomson Houston Electric Light Company was the only company in Omaha whose corporate name was at all similar and the only company that ever claimed or exercised any right under or by virtue of said ordinance.

It has been the uniform custom of all companies and persons engaged in generating and distributing electric current for the production of light to supply consumers with such quantity of current and for such use as consumers might see fit to make of it.

Electric currents adequate for the production of light may be utilized for the production of heat and power, as well as light, and it has been the universal practice of companies furnishing current to private corporations and persons for the production of light to also furnish such current for the production of heat and power, as rapidly as the devices for translating electric energy into heat and power have been made practicable and as the demand for such uses has developed.

421 The business of furnishing electric current for private corporations and natural persons for the production of light, and the furnishing of such current for the production of heat and power, is the same thing so far as the electric company is concerned. It consists in generating and transmitting the current to the premises of the consumer and the sale of the same to him by measurement, whether he employs it for the production of light, heat or power.

The application of electric energy to stationary machinery was not much understood or developed in 1884, and for several years thereafter; but new inventions and devices have been produced for the translation of electric energy to such an extent that the business of furnishing the electric current has been very greatly developed and the use thereof for the production of power and heat has become very important to the public as well as to the electric companies of the country, electric power being now very generally used for the operation of all kinds of machinery.

Light, heat and power are produced from electricity only by conducting the electric current through the appropriate translating devices, and the transmission of the electric current through the public streets and ways is accomplished by identically the same means and instrumentalities, whether it be employed by the consumer for one purpose or for another.

The producing company transmits the current by means of its wire conductors, constructed in circuits, to the premises of the consumer, in such volume or quantity as he may require, and the consumer converts it to his use as light, heat or power, according to his wants, upon his own premises, by means of the appropriate translating device operated and controlled by himself. In practically all of the lighting by electricity (excepting its street lighting) the electric company does practically no more than generate the current and conduct or transmit it to the premises of the consumer, where it is sold to him by measurement and practically all of the business or actual operation of every electric light company (excepting its street lighting) consists of nothing more, and it is the same whether the current be employed for the production of light, heat or power, and the actual business of such companies has never been differently conducted.

The different current is converted or made to produce light by being conducted by wire conductors through a lamp upon the consumer's premises, and controlled by a switch manipulated by the consumer, who thus opens or closes the flow of the current from the source of supply to the lamps, at will, and thus produces light as he requires it.

422 The electric current is also converted into power or heat by the consumer, upon his own premises, and in the same manner, permitting the current to flow from the source of supply through a motor or heating device owned and operated by the consumer, and by means of which he thus produces power or heat as it is wanted.

Whether the consumer desires light, heat or power, the part performed by the electric company is the same, viz: the generating, transmitting to the premises of the consumer, and sale of the electric current, measured by a meter.

The consumer may, and in practice often does, (in fact in a large proportion of cases, so far as number is concerned) employ the same circuit for the production of light, heat or power, as he may require the use of one or the other. By attaching a lamp and switching current "on" light is produced by the flow of the electric current through the translating device of the lamp. By removing the lamp and attaching a heating device heat is produced. By removing the heating device and connecting a motor the electric force or energy is applied by means of the motor, to the operation of machinery. All such changes are made without any action whatever by the company which supplies the electric current. The electric company can not prevent such changes or uses of current otherwise than by refusing to supply it. The consumer may obtain his translating device, whether it be a lamp, heating device, or motor, at any place in the market, and make such necessary installations upon his own premises as may be necessary to connect the same with the supply circuit, and to enable him to use electric devices according to his wants.

If the business of the consumer requires the use of the electric current for two or more purposes at the same time the different trans-

lating devices may be connected by him to the same supply circuit, so that identically the same current delivered to the premises of the consumer, by means of the same conductor, is divided and distributed by the consumer himself, upon his own premises and applied to the uses his business requires.

The use of the streets and public ways of the city for the transmission of electric current is exactly the same whether the current be employed by the consumer for the production of light, heat or power, or for all of such purposes; but as the use of the electric currents increases such use may require more conductors or conductors of larger capacity than if the use was less. The use of electric current for the production of power applied to stationary machinery has been rapidly and extensively developed and is being still greatly developed by the invention or improvement of motors and devices

not before used for the conversion of such current and by extending the use of such devices and instrumentalities to a great variety of business and manufacturing operations. The business of New Omaha Thomson Houston Electric Light Company in the transmission and sale of electric current which the consumers applied to the production of power or heat, developed and increased each year during the whole of the time that I was connected with that company, and the company expended large sums of money in improving, developing and increasing its generating plant and distributing system in consequence of such development of its business and in reliance upon its right under and by virtue of its grant from the city of Omaha to transmit, by means of its wire conductors, through the streets and alleys of the city, electric current for sale to consumers, regardless of the use which the consumer might make of the same.

During the period that I was connected with New Omaha Thomson Houston Electric Light Company the company made in the city of Omaha many installations and connections designed for the application of electric current to the production of power and heat and every such installation was made under the supervision of and after inspection and upon permit granted by the City Electrician of said city, and pursuant to ordinances enacted by the mayor and council of said city, for the regulation of such installation and during said period the city electrician of said city inspected hundred- of such installations prior to and at the time they were being made and *and* periodically afterwards. It was never claimed by or on behalf of the city of Omaha during the time that I was connected with New Thomson Houston Electric Light Company that the company did not have the right by virtue of the municipal grant by the city to transmit electric current to consumers to be applied by them in the production of heat and power, or that there was any limitation or restriction whatever on the right of the company to transmit electric current through the streets and alleys of the city, excepting such limitation as might be imposed by the city in the exercise of its police power for the safety of persons and property and for the protection of the right of the public in the streets and alleys of the city. During the whole of the time that I was connected with the New

Omehe Thomson Houston Electric Light Company the city and its officers not only acquiesced in the use of electric current for the production of power, and the transmission of the same through the streets and alleys by that company, by means of its distributing system to hundreds of persons and with full knowledge of each case, but said city granted a permit for each installation.

I do not now recall any other fact or matter material or of benefit to either party to the suit, so help me God.

WILLIAM F. WHITE.

Subscribed and sworn to before me this 22 day of September, A. D. 1908.

F. F. RUFF, [SEAL.]

Notary Public, New York County.

424 Mr. LAMBERT: The respondent offers in evidence Exhibit H, the same being the deposition of Samuel E. Schweitzer, appearing on pages 45 to 48 both inclusive of the transcript of record of said case to the United States Circuit Court of Appeals and being a duly certified transcript or a part of the transcript of said record.

Mr. McHUGH: The complainant objects to this offer as being incompetent, irrelevant and immaterial, and no proper foundation laid therefor, and it being testimony in a case to which the complainant was not a party, and the complainant not having any opportunity to examine or cross-examine the said witness.

EXHIBIT H.

In the Circuit Court of the United States within and for the District of Nebraska, Omaha Division.

In Equity.

OMAHA ELECTRIC LIGHT AND POWER COMPANY

vs.

THE CITY OF OMAHA and WALDEMAR MICHAELSON.

Doc. Y., Page 105.

Deposition of Samuel E. Schweitzer.

STATE OF NEBRASKA,
Douglas County, ss:

Samuel E. Schweitzer, being first duly sworn, deposes and says as follows, to-wit:

I am now Secretary and Treasurer of Omaha Electric Light and Power Company, the plaintiff above named; I was employed as Cashier and Bookkeeper of New Omaha Thomson-Houston Electric Light Company, commencing December 5, 1889, and I have been

continuously employed by said company or by the plaintiff company, until the present time. The New Omaha Thomson-Houston Electric Light Company commenced business, as is shown by its books and records, in 1885, and prior to August 1, 1903, said company had expended in the City of Omaha in the acquisition and erection of its plant and machinery, for generating electric current, and for the construction of its system of pole lines, conduits, wire conductors, and other instrumentalities for the transmission of such electric currents throughout the City of Omaha, more than the sum of \$1,500,000.

425 Said system was continuously maintained and operated by New Omaha Thomson-Houston Electric Light Company, in, upon and under the streets and alleys of the City of Omaha, until August 1, 1903, when said company transferred its property and franchises to; and was succeeded by, the plaintiff, Omaha Electric Light and Power Company.

The Omaha Electric Light and Power Company has greatly extended and improved the generating plant and whole system aforesaid and has continuously operated in, through and under the streets of the City of Omaha to the present time, and has expended in the acquisition of the property and franchises of the New Omaha Thomson-Houston Electric Light Company, and in such extensions and improvements, more than the sum of \$2,500,00-, within the limits of the City of Omaha.

The New Omaha Thomson-Houston Electric Light Company and the plaintiff, Omaha Electric Light and Power Company, together, have expended more than \$400,000, in the constructions of conduits and an underground system for electric conductors within said city, in compliance with an ordinance of said city, passed in 1902, requiring the placing of all such conduits, where used for electric lighting, heat, power and other commercial purposes, to be placed underground in a large district of said city, a copy of which ordinance is attached to the Plaintiff's Bill of Complaint in this cause.

At the time of passing said ordinance and at all times prior and subsequent thereto the New Omaha Thomson-Houston Electric Light Company, and the plaintiff company, have been the only corporations or persons engaged in the City of Omaha in the generating and transmitting of electric current for the production of light, power and heat, and the only companies having any franchise, license or privilege granted therefor by the City of Omaha, excepting that a Street Car Company has generated electric currents during a part of said period, and sold the same to private corporations and persons, to a small extent, for the production of light and power and Omaha Illuminating Company did a small business prior to the year 1891. Upon information and belief I state that said Street Car Company had no franchise, license or privilege granted to it by the City of Omaha for such use of the streets and alleys of said city.

The New Omaha Thomson-Houston Electric Light Company transferred all of its property and franchises (excepting its franchise to be a corporation) to the plaintiff, Omaha Electric Light and Power Company, by a writing dated and executed July 29, 1903,

but to take effect August 1, 1903, a true copy of which writing I now produce, and which is attached to this deposition and marked "A."

The New Omaha Thomson-Houston Electric Light Company, during all of the time after December 5, 1889 (and prior thereto, commencing in 1885, so far as I am informed) and until August 1, 1903, and the Omaha Electric Light and Power Company during all of the time since August 1, 1903, have been engaged in the business, in the City of Omaha, of lighting the public streets of said city, under contract with the city, and also in transmitting electric current by means of the system aforesaid, to private corporations and persons, for consumption by them for light, power or heat, as the said persons saw fit or found it convenient or advantageous
426 to use the same. The use of the electric current for the pro-

duction of power and heat has been rapidly and extensively developed since 1885, by the invention of motors and devices not before used for the conversion of such currents into power or heat and the business of the plaintiff company has been developed so that now its gross income from the sale of electric current, which is employed by consumers for the production of power only, amounts to \$116,000 per annum which is about $\frac{1}{4}$ of the whole gross annual revenue of the plaintiff from the sale of current consumed or used in the City of Omaha.

The plaintiff, Omaha Electric Light and Power Company has incurred large expense in the acquisition of facilities for the production of electric current thus transmitted and sold, and the consumers have, in many instances, incurred large expense in the acquisition of motors, machinery, and buildings for using the same. The current is employed in the production of power for the operation of grain elevators, mills, passenger elevators in buildings, electric automobiles, stationary engines and motors, manufacturing machinery of all kinds and in a great variety of uses, requiring a small number of power units. The business has been all developed with the knowledge of the defendant city and its officers, who have issued permits for and have inspected installations, when made, and at periods afterwards.

The business of the plaintiff company, so far as it consists in supplying current to private corporations and persons, is merely the transmission of such electric current to and upon the premises of, and sale of the same to such consumers by measure. The consumers themselves in-tall upon their own premises such motors- engines, lamps or other device as their business requires, and the plaintiff company transmits the current to the premises by means of distributing conductors, where it is measured to the consumer by a meter, and where by means of a switch, it is connected by the consumer with the apparatus he desires to employ, whether it be for the production of light, heat, or power, and disconnected by means of the same switch when he wishes to discontinue the use.

Plaintiff company has no power to dictate the use or to prevent the use of the current for the production of power or any other purpose except by cutting off the supply entirely.

The transmission of the current is accomplished by the same

methods, whether it be employed for the production of power, light or heat, and the transmission of the current for use in the production of power does not require any different use of the streets and alleys of the city from that which is required in the transmission of current for use in the production of light. The wire conductors are carried through the same conduits or suspended upon the same pole lines and in the greater number of cases it is taken from the same circuit for light, heat and power.

I have no knowledge of any electric light company, and have never heard of one, engaged in private corporations and persons any-
where, which did not sell electric current for any purpose the
427 consumer desired it for, and I believe it is, and that it has
always been, a part of the business of every such company,

from the time it was discovered the current could — practically applied from the production of power, heat or other purposes than light, and that it was so prior to the passage of Ordinance No. 826, by the Mayor and Council of the City of Omaha, in the year 1884.

The New Omaha Thomson-Houston Electric Light Company and the plaintiff, Omaha Electric Light and Power Company, have paid to defendant city a percentage of gross receipts, pursuant to contract with such city, a copy of which is attached to the complainant's Bill of Complaint, as shown by vouchers, which I now produce and true copies of which are attached as part of this my deposition, and marked "B," "C," "D," "E," "F," "G," respectively, and that, of the aggregate of said payments, the sum of \$12,619 was paid on account of gross receipts for current sold and employed in the production of power.

At the time of the organization of Omaha Electric Light and Power Company, and on June 27, 1903, the plaintiff company caused a duly certified copy of its Articles of Incorporation to be transmitted to the Secretary of State for the State of Nebraska, with the request that the same be filed and recorded in that office, and offered to pay all legal fees therefor. The secretary of state then returned the same, refusing to file or record the same, holding, under the advice of the Attorney General of the State of Nebraska, that no law of the State authorized or required the filing of Articles of Incorporation in his office by a corporation created by another state, unless such corporation wished to become a domestic corporation of the State of Nebraska and complied with the law of the state in respect thereto.

A true copy of a letter written by Edgar M. Morsman, Jr., transmitting said Articles of Incorporation, and marked "H," and a true copy of said Articles of Incorporation so transmitted, and marked "I," and a true copy of a letter written by George W. Marsh, Secretary of State, addressed to Edgar M. Morsman, and marked "J," and a true copy of a letter written by W. W. Morsman, addressed to the said George W. Marsh, Secretary of State, again transmitting said Articles of Incorporation, and requesting that the same be filed and recorded, and marked "K," a true copy of the reply of said George W. Marsh, as Secretary of State, returning and again refusing to file and record the said Articles of Incorporation, marked

"L," are hereto attached as part of this my deposition, so help me God.

SAMUEL E. SCHWEITZER.

Subscribed and sworn to by Samuel E. Schweitzer, before me, this 26th day of August, A. D. 1908.

[SEAL.]

HERBERT L. MARTIN,
Notary Public..

428 Mr. LAMBERT: The respondent offers in evidence Exhibit I, the same being Exhibits B, C, D, E, F, and G appearing upon pages 51 to 56 both inclusive of the transcript of the record of said case to the United States Supreme Court of Appeals, and being a duly certified transcript, or a part of the transcript of said record in the U. S. Circuit Court at Omaha, Nebraska, in the case of Omaha Electric Light & Power Co. vs. The City of Omaha et al., Docket Y, page 105.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial, and no proper foundation laid therefor, it being testimony in a case to which the complainant was not a party, and the complainant had no opportunity to examine or cross-examine in regard to same.

Said Exhibit I is as follows:

429 EXHIBIT "I."

EXHIBIT "B."

The New Omaha Thomson-Houston Electric Light Company
to A. H. Hennings, City Treas., Dr.

Address, Omaha, Neb.

1902. For 3% bonus on gross receipts for 1902 per contract.

Gross earnings for arc and incandescent light service exclusive of business done with the city.....	\$144,459.09
Gross earnings for power service.....	48,546.38
	<hr/>
	\$193,005.47

Amount uncollected for arc and incandescent service	\$2,234.90
Amount uncollected for power service.....	1,307.37
	<hr/>

3%	5,683.90
	<hr/>
	189,463.20

Correct.

S. E. SCHWEITZER,
Sec'y & Treas.

Approved.

— — —, *Gen'l M'gr.*

Approved.

F. A. NASH, *President.*

OMAHA, NEBRASKA.

Received March 3, 1903, from the New Omaha Thomson-Houston Electric Light Company, Fifty-six hundred eighty three and 90-100 Dollars in full for the above.

A. H. HENNINGS,
City Treasurer.
F. B. BRYANT, *Deputy.*

430

EXHIBIT I.

EXHIBIT "C".

Voucher Check.

To A. H. Hennings, City Treas.
Address, Omaha, Neb.

1903. Invoice No. —.

For duly authorized account as per invoices on file in Treasurer's office.

Dec. 31. Bonus as per contract on Gross Receipts within City of Omaha for year 1903:

Gross Receipts from Arc Service	36,431.97
" " " Incandesc. Service	159,261.79
" " " Power	49,303.86
	<hr/>
	244,997.62
Deduct amount received from city	37,529.44
	<hr/>
	207,468.18
3% on above total	6,224.05

Approved for payment.

F. A. NASH, *President.*

Examined and entered.

S. E. SCHWEITZER,
Sec'y and Treas.

Date issued, Jan. 15, 1904. No. 1133.

Received from Omaha Electric Light and Power Company \$6,224.05, Sixty Two Hundred Twenty Four and 05-100 Dollars in full payment of above account.

(Sign here) A. H. HENNINGS, *City Treas.*
By I. L. BEISEL, *Deputy.*
OMAHA ELECTRIC LIGHT AND
POWER CO.
S. E. SCHWEITZER, *Treasurer.*

431

EXHIBIT I.

EXHIBIT "D".

Voucher Check.

To A. H. Hennings, City Treas.
Address, Omaha, Neb.

1904. Invoice No. —.

Dec. 31. For duly authorized account as per invoices on file in
Treasurer's Office.

Bonus as per terms of City Contract for 1904:

Gross Receipts from Arc & Inc. Service.....	230,428.01
“ “ “ Power	55,407.23
Total.....	285,885.24
Less amount received from City.....	51,502.70
	<hr/>
	234,382.54
3% on this amount.....	7,031.48

Approved for payment.

F. A. NASH, *President.*

Examined and entered.

S. E. SCHWEITZER,
Sec'y and Treas.

Date Issued, Jan. 17, 1905. No. 3525.

Received from Omaha Electric Light and Power Co. \$7,031.48,
Seven Thousand Thirty One and 48-100 Dollars in full payment of
above account.

(Sign here) A. H. HENNINGS,
City Treasurer.

I. L. BEISEL, *Deputy.*
OMAHA ELECTRIC LIGHT AND
POWER CO.,

By S. C. SCHWEITZER, *
Treasurer.

432

EXHIBIT I.

EXHIBIT "E".

Voucher Check.

To A. H. Hennings, City Treasurer.
Address, Omaha, Neb.

1905. Invoice No. —.

Dec. 31. For duly authorized account as per invoices on file in
Treasurer's Office.

Bonus as per terms of City Contract for 1905:

Gross Receipts from Arc & Inc. Service.....	268,127.59
" " " Power	64,577.95
Total.....	332,705.54
Less amount received from City.....	51,058.73
	281,646.73
3% on this amount	8,449.40

Approved for Payment.

F. A. NASH, *President.*

Examined and Entered.

S. E. SCHWEITZER,
Sec'y and Treas.

Date Issued, Jan. 29, 1908. No. 5976.

Received from Omaha Electric Light and Power Co. \$8,449.40,
eighty-four hundred forty-nine and 40-100 dollars in full payment of
above account.

(Sign here) A. H. HENNINGS, *City Treas.*
I. L. BEISEL, *Deputy.*

OMAHA ELECTRIC LIGHT AND
POWER CO.,

By S. C. SCHWEITZER,
Treasurer.

433

EXHIBIT I.

EXHIBIT "F".

Voucher Check.

To Robt. O. Fink, Treasurer.
Address, Omaha.

1906. Invoice No. —.

Dec. 31. For duly authorized account as per invoices on file in Treasurer's office.

Rebate as per terms of City Contract for 1906:

Gross Receipts from Arc-Inc & Power Service.....	430,753.34
Less amount received from City.....	67,442.55

	363,310.79
3% on this amount	10,899.32

Approved for payment.

F. A. NASH, *President.*

Examined and Entered.

S. E. SCHWEITZER,
Sec'y and Treas.

Date Issued, Jan. 22, 1907. No. 8456.

Received from Omaha Electric Light and Power Co. \$10,899.32,
Ten Thousand Eight Hundred Ninety-nine and 32-100 Dollars in
full payment of above account.

(Sign here) ROBERT O. FINK,
City Treasurer.

I. L. BEISEL, *Deputy.*
OMAHA ELECTRIC LIGHT AND
POWER CO.,

By S. E. SCHWEITZER,
Treasurer.

Not over twelve thousand \$12,000\$

When proper receipted this voucher becomes a check payable
through Nebraska National Bank, Omaha.

434

EXHIBIT I.

EXHIBIT "G".

Voucher Check.

No. 10842. OMAHA, NEB., Jan. 21, 1908.

Pay to the order of Frank Furay, City Treasurer, \$13,458.33,
 Thirteen Thousand four Hundred fifty-eight and 33-100 Dollars.
 Not over fourteen thousand \$14000\$

OMAHA ELECTRIC LIGHT AND
 POWER CO.,

By S. E. SCHWEITZER,

Treasurer.

To Nebraska National Bank, Omaha.

Countersigned by

F. A. NASH, *President.*

To Frank Furay, City Treasurer, Omaha, voucher check No.
 10842, \$13,458.33.

Date.	Memo.	Distribution of charge.
1907.	Rebate as per terms of City Contract for 1907:	
	Gross receipts from Arc Inc. & Power Service....	512,398.57
	Less amount received from City.....	63,787.45
		<hr/>
		448,611.12
3% on this amount		13,458.33

435 **Mr. McHUGH:** It is hereby stipulated and agreed by and between the parties hereto that the following ordinances and contracts as set forth in the bill of complaint herein were introduced in evidence on the trial of said cause in the Circuit Court of the United States wherein Omaha Electric Light & Power Company was complainant and the City of Omaha et al., were defendants, said ordinances and contracts being as follows: Ordinance 826, 3391, 3791, 4366, 5051, 5433 and 6804; Contracts between the city of Omaha and the Electric Light Company marked Exhibit F in the bill of complaint; contract between the Electric Light Company and the City, marked in the bill of complaint Exhibit I; and contract between the Electric Light Company and the City marked in the bill of complaint Exhibit K.

Mr. McHUGH: It is hereby stipulated and agreed by and between the parties hereto that Exhibit B in the bill of complaint, being a copy of the articles of incorporation of the New Thomson-Houston Omaha Electric Light and Power Company, a copy of which has been introduced in evidence in this case, was introduced upon the trial of said last mentioned cause, wherein the Omaha Electric Light and Power Company was complainant and the City of Omaha, et al., were defendants.

436 Mr. LAMBERT: The respondent offers in evidence Exhibit J, the same being the assignment of errors found upon page 18 of the brief of the Omaha Electric Light & Power Company against the City of Omaha, et al., in the Circuit Court of Appeals, 8th District, No. 3141.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial, and for the reason that the same is a brief in a case to which complainant was not a party, but the complainant admits that the extract offered is an extract from the brief as stated.

EXHIBIT J.

Assignment of Errors.

The Circuit Court erred in rendering a decree dismissing the bill of complaint for want of equity, because:

(1) The conclusion of the court, set forth in its memorandum opinion, that the ordinance of the City of Omaha of December 16, 1884, granting a franchise to the plaintiff, as corrected and re-enacted April 25, 1899, limits the rights and privileges granted to the transmission of electric current which shall be used by the consumer for the production of light, is contrary to the undisputed evidence and is erroneous in fact and in law.

(2) The conclusion of the Circuit Court, set forth in its memorandum opinion, that the construction given to the granting ordinance by the parties thereto, during a period of 25 years
437 of amicable enforcement and performance, is neither controlling or material, is contrary to the undisputed evidence and is erroneous in fact and in law.

(3) The conclusion of the Circuit Court set forth in its memorandum opinion, that the defendant city is not estopped by its conduct as shown by the undisputed evidence, is erroneous in law.

(4) The Circuit Court erred in refusing to render a decree in favor of the plaintiff, as prayed in the bill, making the temporary injunction perpetual.

Mr. LAMBERT: The respondent offers in evidence Exhibit K, the same being a part of the brief of complainant in the case last referred to in the offer of Exhibit J hereof, and appearing upon page 30, beginning with the word "Argument" and extending to the close of the 2nd paragraph on page 31 thereof.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial, and for the reason that the same is a brief in a case to which complainant was not a party, but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT K.

Argument.

1.

438 The interpretation given by the Circuit Court to the Ordinance of 1884 is erroneous.

The principal question in this case arises on the interpretation of the ordinance of 1884, granting franchises to New Omaha Thomson-Houston Electric Light Co., plaintiff's assignor.

The ordinance provides:

"That the New Omaha Thomson-Houston Electric Light Company or assigns, is hereby granted the right of way, for erection and maintenance of poles and wires, with all the appurtenances thereto, for the purpose of transacting a general electric light business, through, upon and over the streets, alleys and public grounds.
* * *

The city contends, and the Circuit Court held, that the words, "for the purpose of transacting a general electric light business, operate to limit the franchises granted to the transmission and distribution of electricity to consumers who use it only for the production of light, and that, thereby, the company is prohibited, or has no authority, to transmit it to those who employ it in the production of heat or power.

This contention necessarily concedes the power of the city to make the grant, for, if the power was lacking there would be no reason for construing these words for the purpose of limiting the grant. In fact the answer is an admission of the power to make the grant, excepting that, in paragraph XVI, it is alleged that the city had no power to grant a "perpetual" franchise, a proposition that is not now relevant and which will be considered in another division.

439 Mr. LAMBERT: The respondent offers in evidence Exhibit L, the same being a part of the brief of the complainant, found upon page 78, beginning with the Roman numerals "II", and extending throughout that page and to the close of the first paragraph on page 79, of the brief of complainant referred to in the last two preceding exhibits.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial, and for the reason that the same is a brief in a case to which complainant was not a party, but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT L.

II.

The right granted by ordinance No. 426, as corrected, is not a license, revokable at the will of the city, but is an irrevocable franchise.

The contention by the City that the grant to New Omaha Thomson-Houston Electric Light Co. is a mere license, revocable at the will of the city, is an after thought, not in the mind of the governing body when the Concurrent Resolution, No. 2330, was passed, but conjured up as a defense to this suit. Not the slightest intimation of such a claim is contained in the resolution or suggested in any manner until the answer was filed, and it is impossible to
440 believe that, with that claim in mind, the city would have undertaken to enforce it merely to the extent of prohibiting the transmission of electric current to those consumers who do not employ it in the production of heat and power, leaving the company free to continue the use of the streets in the same manner for the transmission and sale of all persons, and without limitation, who employ it for any other purpose. The attitude of the city, although it is ostensibly, a claim that the franchise rights of the city are defective, when analyzed, is simply an objection to the use of the electric current by the consumer, which has no rational foundation and which is based upon no substantial distinction.

Mr. LAMBERT: The respondent offers in evidence Exhibit M, the same being a part of the brief of the City of Omaha in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, et al., No. 3141 in the U. S. Circuit Court of Appeals, 8th Circuit, beginning with the word "Argument" near the close of the third page of said brief, and extending to the close of the first paragraph on page 4 of said brief.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial and for the reason that the same is a brief in a case to which complainant was not a
441 party, but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT M.

Argument.

I.

The Mayor and Council of Omaha were not authorized under its charter of 1884 to grant a perpetual license, franchise or easement in the streets, alleys and public grounds of the city, and permit the erection and maintenance of poles and wires on the surface of the streets to enable the grantee to carry on an electric light business and take tolls therefor.

The appellant claims that Ordinance No. 826 granted an irrevocable and perpetual franchise. That is, a perpetual and irrevocable easement in all of the streets of the city as the city now exists, as it existed at the time of the grant, and as it shall extend in the future. That for all future time it shall have the right to erect and maintain such poles and wires as may be necessary to carry on its ever increasing business, on all streets, alleys and public grounds of the city, which includes public parks, subject to reasonable police regulation. This power claimed by the appellant, in its scope and possibilities, considering the increasing use of electric current, is well nigh unlimited. So far as the corporate, commercial and business life of the city is concerned, it means that a
442 vast interest in the way of privileges which belong to the people of the city, has been surrendered without compensation, to private individuals, over which the city can exercise but little control, and which may materially affect its future advancement. We insist it possesses no such rights or privileges. That the city never granted and never intended to grant such privileges, and that the city did not then and never has since possessed the power to grant such privileges.

Mr. LAMBERT: The respondent offers in evidence Exhibit N, being a part of the brief of the City of Omaha in the case last referred to in Exhibit M hereof, beginning with the Roman numeral "II" near the middle of page 18 and extending throughout that page and to the close of the third paragraph on page 19.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial and for the reason that the same is a brief in a case to which the complainant was not a party but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT N.

II.

Ordinance No. 826 being without words of limitation, granted only a license or permit revocable at the will of the City.

443 The powers possessed by the mayor and council in 1884, when Ordinance No. 826 was enacted and approved, were as follows:

"The Mayor and Council of each city created or governed by this act, shall have * * * power to pass any and all ordinances not repugnant to the constitution and laws of this State, and such ordinances to alter, modify or repeal." (Laws of Neb. 1883, section 15, p. 89.)

"To provide for lighting of the streets." (Laws of Neb. section 15, sub-div. 8, 390.)

"To care for and control, to name and rename streets, avenues, parks and squares within the city; to provide for the opening,

vacating, widening and narrowing of the streets, avenues and alleys within the city under such restrictions and regulations as may be provided by law." (Laws of Neb. 1883, chapter 10, section 15, sub-div. 24, p. 92.)

Counsel for complainant in his brief says that the company accepted the grant in 1885. The corporation organized under the general law of the state during that year and began building its plant. It accepted the grant in no other way. The validity of the grant and its construction must be determined by the city charter at the time the grant was made. Whether the ordinance granted a perpetual easement or franchise, whether it was a contract or revocable license or permit, must be determined by the language of the grant, and the powers possessed by the mayor and council at the time, and not by the authority conferred upon the city under a subsequent charter. The fact that the legislature at a later period enlarged the powers of the city government, would not extend the provisions or change the character of the grant. The city never had authority to grant a perpetual easement in the surface of its streets; and at the time of the grant, it did not possess authority to give such an easement even for a term of years.

Mr. LAMBERT: The respondent offers in evidence Exhibit O, the same being a part of the brief of the city of Omaha in said case referred to in the last two preceding Exhibits M and N, beginning with the Roman numeral "III" on the top of page 38 and including the first paragraph on said page the same being in italics and comprising four lines.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial and for the reason that the same is a brief in a case to which the complainant was not a party, but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT O.

III.

If Ordinance No. 826 constituted a franchise, granting an easement in the streets, alleys and public grounds of the city, it was limited in duration to the corporate life of the grantee.

445 Mr. LAMBERT: The respondent offers in evidence Exhibit P, the same being a part of the brief of the city of Omaha in the same case referred to in the last preceding offers, said offer appearing near the top of page 49 thereof, beginning with the Roman numeral "IV," and including the next two lines in italics.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial and for the reason that the same is a brief in a case to which the complainant was not a party, but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT P.**IV.**

The city reserved the right to revoke the permit at will.

Mr. LAMBERT: The respondent offers in evidence Exhibit Q, the same being a part of the brief of the city of Omaha in said case, referred to in last four preceding offers, the same appearing on page 53 thereof, beginning with the Roman numeral "V" and including the next two lines following said numerals in italics.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial and for the reason that the same is a brief in a case to which the complainant was not a party, but the complainant admits that the extent offered is an extract from the brief as stated in said case.

EXHIBIT Q.**V.**

The use of the streets for poles and wires was limited to the purpose of electric lighting.

Mr. LAMBERT: The respondent offers in evidence Exhibit R, the same being a part of the brief of the city of Omaha in said case referred to in the last preceding 5 offers, appearing on page 68 thereof, beginning with the Roman numeral "VI" and closing with the first paragraph following said Roman numeral, the same being in italics.

Mr. McHUGH: The complainant objects to the offer as being incompetent, irrelevant and immaterial and for the reason that the same is a brief in a case to which the complainant was not a party, but the complainant admits that the extract offered is an extract from the brief as stated in said case.

EXHIBIT R.**VI.**

Ordinance No. 826 was not a contract between the city and the grantee in the ordinary sense and should not be so construed. It was a grant of special privileges in the streets and is subject to the rule of strict construction.

447 Mr. LAMBERT: The respondent offers in evidence Exhibit S, the same being the memorandum of opinion of Hon. W. H. Munger, found upon pages 121 to 124 both inclusive of the transcript of record of said case of the Omaha Electric Light and

P-wer Company vs. The City of Omaha et al., Docket Y page 105, in the U. S. Circuit Court, at Omaha, Nebraska, same being the transcript of record of said case to the United States Circuit Court of Appeals, and being a duly certified copy of said opinion, no objection being made that said original opinion is not offered in lieu of the copy.

Mr. McHUGH: Objected to by the complainant, as being incompetent, irrelevant and immaterial, the same being an opinion rendered in a case to which the complainant was not a party.

EXHIBIT S.

In the Circuit Court of the United States for the District of Nebraska.

Y, 105.

OMAHA ELECTRIC LIGHT AND POWER COMPANY, Complainant,
vs.

THE CITY OF OMAHA and WALDEMAR MICHAELSON, Defendants.

Memorandum Opinion.

W. H. MUNGER, D. J.:

In 1884 the City of Omaha was a city of the first class, governed by a legislative charter which gave to the corporate authorities of the city full power, control and authority over the streets and alleys of the city. In December 1884, the city council of said city passed an ordinance, which was duly approved by the Acting Mayor of the city, which ordinance gave to the New Omaha Thomson-Houston Electric Light Company, or assigns, the right to erect and maintain poles and wires, with all the appurtenances thereto, upon and over the streets, alleys and public grounds of said city "for the purpose of transacting a general electric light business," and under such reasonable rules and regulations as might be provided by ordinance. The provisions of the ordinance were accepted by the New Omaha Thomson-Houston Electric Light Company, and an electric light plant established in the City of Omaha, the electrical current therefor being transmitted over wires strung upon poles erected upon the various streets and alleys within the city.

The application of electric power to stationary machinery was not much understood or developed in 1884, and for several years thereafter. As appliances were invented for such purposes they were used by said Electric Light Company.

Ordinances have subsequently been passed by the city of a general nature, requiring that all companies using or desiring to use electricity for light, power or heating purposes should be governed by certain regulations under the direction of the City Electrician. A subsequent ordinance was passed, requiring all companies furnishing electricity for lighting, heating and power purposes, to pay

a certain percentage of gross receipts to the city. In 1903, shortly before the termination of the corporate existence of said New Omaha Thomson-Houston Electric Light Company, it assigned all its property, and rights acquired by virtue of said ordinance of 1884, to complainant, and for the years 1902, 1903, 1904, 1905 and 1906, complainant paid to the City Treasurer of the City of Omaha the percentage upon its gross receipts for electrical energy furnished by it for lighting and power purposes, and complainant and its predecessors have invested a large sum of money in producing the electrical current for power and heat, and addition to what would have been required for lighting purposes only.

The city has also by ordinance required all companies transmitting electricity for heat, light and power purpose, to place within a certain prescribed district within the city all wires so used in conduits under the ground. In May, 1908, the city council by resolution approved by the mayor, directed the city electrician to disconnect, or cause to be disconnected, on or before July 1st, 1908, all wires leading from the conduits or poles of the Omaha Electric Light & Power Company, transmitting electricity to private persons or premises, to be used for heat or power, and to take such steps as would prevent said Omaha Electric Light & Power Company from furnishing or transmitting from the conduits or wires electricity to private persons or premises for heat or power purposes. The city electrician notified complainant of his purpose to carry out the provisions of said resolution. Thereupon complainant instituted this action to enjoin the city and said Michaelson, as city electrician, from enforcing the provisions of said resolution, or otherwise interfering with complainant in its business of furnishing under the provisions of the ordinance of 1884, electricity for light, heat and power purposes.

449 There are no controverted questions of fact, the case presenting simply questions of law.

I think the city had authority, in 1884, under the general power given it over the streets and alleys within the city, to pass the ordinance in question, granting to the New Omaha Thomson-Houston Electric Light Company, the privilege given by said ordinance.

The privilege given by said ordinance not being exclusive was not a special privilege or immunity within the meaning of Section 15 of Article 3 of the Constitution of the State.

City of Plattsmouth vs. Nebraska Telephone Co., 80 Neb., 460; 114 N. W., 588.

Omaha Water Co., vs. City of Omaha, 147 Fed., 1; 77 C. C. A., 267.

Nor was the grant to the New Omaha Thomson-Houston Electric Light Company, or assigns, limited in duration to the corporate life of said Company.

Detroit Citizens Street Ry. Co. vs. City of Detroit, 64 Fed., 628; 12 C. C. A., 363; 184 U. S., 368.

The ordinance of 1884 was limited in its terms to a "general electric light business, and it did not grant to the company author-

ity for the transmission of an electrical current for purposes other than lighting.

Chicago General Street Ry. Co. vs. Elicott, 85 Fed., 941.

City of Toledo vs. Western Union Tel. Co., 107 U. S., 10.

See, also, Sec. 907, Vol. 3, Abbott on Municipal Corporations.

It is, however, rigid on the part of the complainant that the ordinance in question was a contract; that the parties, by their acts and conduct have construed the ordinance as giving such authority, and the construction so given by the parties should be adopted by the Court. The rule, however, I think, is well settled that the interpretation given contracts by parties as shown by their acts can only be considered when the contract is ambiguous and susceptible of different meanings.

Russell vs Young, 94 Fed., 45; 36 C. C. A., 71.

R. R. Co. vs. Trimble, 10 Wall., 367-377.

Delaware Surety Co., vs. Metropolitan Trust Co., 146 Fed., 600.

The ordinance in question is not to my mind ambiguous, but plain and specific, limiting the grant to general electric light purposes. In construing contracts and ordinances of this nature the general rule is that they should be construed strictly in favor of the public, yet they should receive a just and rational interpretation, and the Court endeavor to ascertain from the language used the true intent and meaning of the parties. To do this we should place ourselves back to the time of the passage of the ordinance in question, consider the then conditions, and ascertain what the city council
450 at that time intended, and give the ordinance that construction, and not such a construction as private interests may now desire, nor such as public interest, after the lapse of years may desire.

The evidence shows, as before stated, that, at the time the city council acted in 1884, the application of electric power to stationary machinery was not much understood or developed, and was not for several years thereafter.

I cannot think that, in granting in 1884 the right to transmit electricity through the streets and alleys of the city for general electric lighting purposes, it was in the mind of the city council or any of the parties or that they for a moment contemplated or intended, that the ordinance in question granted the right to transmit an electric current for all purposes and uses to which the inventive mind might in the future apply it, even though such new uses might be equally beneficial to the public. Had such been the intention the word "light" would have been omitted. The words "a general electric light business," as used in the ordinance, show clearly an intention to limit the use to which the electric current was to be applied.

No representations or conduct upon the part of the city are shown which would constitute an estoppel. Whether the ordinance granted

authority to transmit electricity for other than lighting purposes was as well known to complainant and its predecessor as to the city, and the essential elements to constitute estoppel are not shown.

Crary vs. Dye, 208 U. S., 515.

Nor do I think the payment by complainant, and the receipt by the city, of a percentage upon complainant's gross income, derived from the sale of electricity for power as well as lighting purposes, constitutes a valid ratification of the assumed authority of complainant. The law, I think, fundamental, that a power required to be given by a city by ordinance can only be modified or enlarged by ordinance. The payments made, by complainant were merely voluntary payments, made with full knowledge of all facts and its legal rights, and upon no representations or conduct by the city which estops it from denying that complainant's rights are greater than those expressly stated in the ordinance of 1884.

The conclusion above reached renders it unnecessary to determine whether or not the ordinance of 1884, containing no time limit, constituted a perpetual, irrevocable contract, or, as said in *Boise City Artesian Hot & Cold Water Co., vs. Boise City*, 123 Fed., 232; 59 C. C. A., 236,—was a mere privilege, revocable at will.

The case will be dismissed for want of equity.

That complainant may have ample time to protect its rights by an appeal, if it should desire, the restraining order heretofore granted will remain in force, and the decree will not be formally entered until the 31st day of the present month.

451 Mr. LAMBERT: The respondent offers in evidence Exhibit

T, the same being the opinion of the Circuit Court of Appeals for the Eighth Circuit, in the case of the Omaha Electric Light & Power Company vs. City of Omaha et al, appearing on pages 455 to 461, inclusive, in Volume 179 Federal Reporter.

Mr. McHUGH: The complainant objects to the same as being incompetent, irrelevant and immaterial, being an opinion in a case to which the complainant was not a party, but no objection is made on the ground that the document is not properly authenticated.

EXHIBIT T.

(Circuit Court of Appeals, Eighth Circuit, April 20, 1910.)

No. 3141.

OMAHA ELECTRIC LIGHT & POWER CO.

v.

CITY OF OMAHA et al.

1. Municipal Corporations (Sec. 78) — Legislative Grant of Power—Construction.

Legislative grants of power of municipal corporations must be strictly construed, and cannot operate as a surrender of legislative

power, except so far as expressly delegated or indispensably necessary to the exercise of some other power which has been expressly delegated.

2. Municipal Corporations (Secs. 680, 681).—Powers—Grant of perpetual franchise to Light Company.

A legislative grant of power to a city generally to "provide for lighting the streets" and to "care for and control the streets" is not specific enough to warrant a grant by the city to a business corporation of the right to use the streets of the city forever for the purpose of conducting a general lighting business; that being a servitude not embraced within the ordinary control over streets usually given to municipalities.

3. Electricity (Sec. 4).—Grant to Company of right to use streets—Construction—Duration of franchise.

A city by ordinance granted to an electric light company a franchise to erect and maintain poles and wires "for the purpose of trans-
452 acting a general electric light business through, upon, and over the streets, alleys, and public grounds of the city * * * under such reasonable regulations as may be provided by ordinance; * * * provided, further, that whenever the city council shall by ordinance declare the necessity of removing from the public streets and alleys the * * * electric poles or wires thereon constructed or existing said company shall within sixty days" remove the same. The company was not at the time incorporated, but was immediately afterward incorporated, in accordance with the understanding of the parties, for a term of 20 years. Held, that it could not be presumed that it was intended to grant to such company a perpetual franchise, but, no term being expressed, it would be construed as a grant at least for the life of the corporation, and that its assigns or successors might thereafter hold and enjoy the same at the will of the city only.

Appeal from the Circuit Court of the United States for the District of Nebraska.

Suit in equity by the Omaha Electric Light & Power Company against the City of Omaha and others. Decree for defendants (172 Fed. 494), and complainant appeals. Affirmed.

Westel W. Morsman, for appellant.

Harry E. Burnam and I. J. Dunn, for appellees.

Before Sanborn and Adams, Circuit Judges.

ADAMS, *Circuit Judge*:

The electric light company had been carrying on the business which its name indicates in the city of Omaha for some 25 years, when in May, 1908, by a concurrent resolution of the city council, the electrician of the city was directed to disconnect the wires of the company so as to prevent their use for the transmission of electric current for heat or power. To enjoin that threatened action was

the purpose of this suit, which was instituted by the company against the city and its electrician, Michaelson. The Circuit Court refused to issue the injunctive order, and on final hearing dismissed the bill. The company appeals.

On December 16, 1884, the city passed an ordinance known as No. 826, as follows:

"Be it ordained by the City Council of the City of Omaha:

"SECTION 1. That the New Omaha-Thomson-Houston Electric Light Company, or assigns, is hereby granted the right of way for erection and maintenance of poles and wires, with all the appurtenances thereto, for the purpose of transacting a general electric light business through, upon and over the streets, alleys and public grounds of the city of Omaha, Nebraska, under such reasonable regulations as may be provided by ordinance. * * * Provided further, that whenever the city council shall, by ordinance, declare the necessity of removing from the public streets and alleys of the city of Omaha the telegraph, telephone or electric poles or wires thereon constructed or existing, said company shall, within sixty (60) days from the passage of such ordinance remove all poles and wires from such streets and alleys by it constructed, used or operated."

At the time this ordinance was passed, the electric light company referred to therein had not been incorporated.

It was, however, understood that it should be and it subsequently was incorporated pursuant to that understanding for a term of 20 years to expire September 26, 1905. The company, being then an incorporated body of limited life tenure, accepted the ordinance as passed, and thereby entered into contract relations with the city. These facts estop both parties from denying that there was a corporation in existence at the time the contract was formally concluded, or that such corporation was one of limited life tenure. The company afterwards proceeded to construct a plant and machinery for generating electric current with a system of poles and wires in the streets and alleys for its transmission and distribution throughout the city and maintained the same continuously until July 29, 1903, when, its corporate life being about to expire by limitation, it sold and transferred its property and franchises to the complainant Omaha Electric Light & Power Company. The latter named company continued the business of its predecessor without interruption until May, 1908, when the following concurrent resolution was adopted:

"Resolved, by the city council of the city of Omaha, the mayor concurring, that the city electrician be, and he is hereby ordered and directed to disconnect, or cause to be disconnected, on or before July 1st, 1908, all wires leading from the conduits or poles of the Omaha Electric Light & Power Company transmitting electricity to private persons or premises to be used for heat or power; and to take such steps as may be necessary to prevent the said Omaha Electric Light & Power Company from furnishing or transmitting from the conduits or wires, electricity to private persons or premises for heat or power purposes. * * *"

The city was about to carry this resolution into effect when the bill in the case was filed. On the hearing of an application for a temporary restraining order the cause was by agreement submitted on the merits for a final decree.

The complainant claimed that because its grant from the city was absolute in form, containing no limitation upon its duration, it constituted a grant in perpetuity entitling it and its successors or assigns to use the streets forever for the distribution of its electric current. The city claimed (1) that it was without power to grant a perpetual franchise, and (2) that, if it had the power, it did not exercise it, but, at best, conferred upon the company a license to occupy its streets revocable at the will of the city at least after the expiration of the corporate life of the company.

455 The joint resolution of May, 1908, disclosed the intention on the part of the city to prevent the company from using its streets for transmitting electricity for heat or power purposes only. The claim was that the ordinance in terms granted the right of way for the purpose of transacting "a general electric light business" only, and that furnishing either heat or power was not comprehended within the terms of the grant. The court below adopted the theory that the ordinance in granting the right to transact "a general electric light business" necessarily limited the right of the company thereunder to use the streets to carry on a lighting business only, and did not confer upon it the right to use them for any other branch of business. It was argued in opposition, among other things, that the words "general electric light business" are of such uncertain and ambiguous import as to permit elucidation by the practical construction placed upon them by the parties, and that, as so constructed, they comprehended the business of transmitting electric current for heat and power as well as light.

Many facts called to our attention by learned counsel for complainant indicate that the city allowed the company to invest large sums of money in preparing for this extended service, knew it was about to enter upon it, and that it was continuing in it, and not only did not object, but received pecuniary emoluments therefor. Such being the case, the argument at the bar was extended beyond the limited inquiry made by the trial court. It was addressed
456 to the fundamental questions, whether the city had the power to grant a perpetual franchise, and if so whether it had in fact done so. As these questions necessarily include the less important one actually decided below, we will confine ourselves to them.

Undoubtedly the ordinance granted to the company either (1) a franchise to use the streets of the city perpetually; (2) a franchise to use them for a reasonable time, the same to be determined in view of all the facts and circumstances; or (3) a license revocable at the will of the city at any time. Which of these is correct? The city contends it cannot be construed as a perpetual franchise because that would violate the prohibition of article 1, Sec. 16, of the Constitution of Nebraska, which ordains that "no * * * law * * *

making any irrevocable grant of special privileges or immunities * * * shall be passed." The company contends that the grant of a perpetual franchise which confers no exclusive right to the grantee is not the grant of a special privilege or immunity within the meaning of the Constitution and relies upon *Plattsouth v. Nebraska Telephone Co.*, 80 Neb. 460, 464, 114 N. W. 588, 14 L. R. A. (N. S.) 654, 127 Am. St. Rep. 779, *Omaha Water Co. v. City of Omaha*, 77 C. C. A. 267, 272, 147 Fed. 1, 12 L. R. A. (N. S.) 736, and cases there cited. This contention of the company might be conceded, and the question would not be settled. The Legislature of the state which primarily had the authority to grant the use of streets for other than the ordinary purposes of travel could have exercised its authority by direct legislation or through the instrumentality of the city in which the streets were situated.

In *Wright v. Nagle*, 101 U. S. 791, 25 L. Ed. 921, the question related to the grant of a franchise to maintain a toll bridge. The Supreme Court there said:

"A grant of this franchise from the public in some form is therefore necessary to enable an individual to establish and maintain a toll bridge for public travel. The Legislature of the state alone has authority to make such a grant. It may exercise this authority by direct legislation, or through agencies duly established, having power for that purpose. The grant when made binds the public, and is, directly or indirectly, the act of the state. The easement is a legislative grant, whether made directly by the Legislature itself, or by any one of its properly constituted instrumentalities."

See to the same effect *City Railway Co. v. Citizens' Railroad Co.*, 166 U. S. 557, 563, 17 Sup. Ct. 653, 41 L. Ed. 1114.

The mayor and council, therefore, in making the contract evidenced by Ordinance 826, were exercising a delegated authority. The state by the act of its Legislature approved February 21, 1883, (Laws 1883, p. 90, c. 10), empowered the mayor and council of each city to pass any and all ordinances not repugnant to the Constitution and laws of the state;" * * * to provide for the lighting of the streets, * * * to care for and control * * * streets, avenues, parks and squares within the city," and by act of its Legislature approved March 3, 1885, before acceptance by the company of the grant in question (Laws 1885, c. 13, p. 117), it again empowered them "to provide for the lighting of streets, laying down of gas pipes and erection of lamp posts, and to regulate the sale and use of gas and electric lights, the charge for electric light and the rent of gas meters within the city, and to require the removal from the streets, avenues and alleys, and the placing on the ground of all telegraph, electric and telephone wires." Legislative grants of power to municipal corporations must be strictly construed, and cannot operate as a surrender of legislative power except so far as expressly delegated or is indispensably necessary to the exercise of some other power which has been expressly delegated. *Boise City Artesian Hot & Cold Water Co. v. Boise City*, 59

C. C. A. 236, 123 Fed. 232; *City of Detroit v. Detroit City Ry. Co.* (C. C.) 56 Fed. 867, 876; *Turnpike Co. v. Illinois*, 96 U. S. 63, 24 L. Ed. 651; *Long Island Water Supply Co. v. Brooklyn*, 166 U. S. 685, 696, 17 Sup. Ct. 718, 41 L. Ed. 1165; *Citizens' St. Railway v. Detroit Railway*, 171 U. S. 48, 18 Sup. Ct. 732, 43 L. Ed. 67; *Water, Light & Gas Co. v. City of Hutchinson*, 207 U. S. 385, 28 Sup. Ct. 135, 52 L. Ed. 257; *Lancaster County v. Green*, 54 Neb. 98, 74 N. W. 430.

Applying this rule to the present case, we are of opinion that the conference of power in general terms to "provide for lighting the streets" or "to care for and control the streets" is not specific enough to warrant a grant by the city to a business corporation of the right to use the streets of the city forever for the purpose of conducting a general lighting business. That is a servitude not embraced within the ordinary control over streets usually given to municipalities. A perpetual franchise, even if not exclusive in fact, becomes largely so by the advantage in the race which preoccupation of the field and perpetual right to continue in it afford. And, while it may not be technically obnoxious to the constitutional prohibition against "granting special privileges or immunities," it is so unusual and extraordinary as to require, in our opinion, a more specific legislative authorization than the general language relied on by the company therefor. We therefore conclude that, even if the mayor and council had intended to grant a perpetual franchise to the company, they were powerless to do so.

This conclusion might put an end to further discussion, but another proposition was argued before us which brings us to the same result. The ordinance when taken as a whole and construed in the light of what was expressed as well as unexpressed in it, and, in view of all the attending facts and circumstances, discloses, we think, a clear purpose not to grant a perpetual franchise. The right to use the streets of the city forever to inaugurate and promote a private enterprise would seem to have been so important and valuable a feature of the contract as to irresistably lead the contracting parties to mention it specifically if they intended to provide for it and not leave its existence dependent upon implication.

The ordinance actually reserved to the city the right to require the removal of the poles and wires from the streets within 60 days after the city council should declare the necessity therefor by ordinance. This is not only inconsistent with, but it seems quite repugnant to, the claim of perpetuity now made by the company. On the other hand, the cost and expense of installing and maintaining an electric lighting system was so great as to render it unlikely that the company would embark upon it without assurance of some reasonable term of enjoyment. Moreover, the fact that the company was permitted without let or hindrance to continue its business for the full period of 20 years indicates a mutual understanding that some substantial term of enjoyment was contemplated. That was a practical construction placed upon a contract of dubious meaning which, according to well recognized law, should receive due consideration at the hands of the

court. In view of the foregoing, disclosing that no perpetual franchise was intended and pointing to the improbability of the company embarking upon the business without some assurance of extended enjoyment, we think the fact that the corporate life of the company continued for a period of 20 years affords a key to the true intention of the parties. It is improbable that the mayor and city council with due regard to the rights of the inhabitants of the city would tie their own hands as well as that of all future councils and mayors by granting a perpetual franchise to a company whose corporate life rendered it certain that it could not discharge its duties more than 20 years, and with no obligation upon it at the end of
461 its life to assign its rights to another person or corporation empowered or obligated to accept the grant and perform the desired service.

In *Turnpike Co. v. Illinois*, supra, the Supreme Court of the United States, in considering whether the grant of a given franchise was in perpetuity or not, made use of the following language:

"No term was expressed for the enjoyment of this privilege, and no conditions were imposed for resuming or revoking it on the part of the state. It cannot be presumed that it was intended to be a perpetual grant, for the company itself had but a limited period of existence. At common law, a grant to a natural person, without words of inheritance, creates only an estate for the life of the grantee; for he can hold the property no longer than he himself exists; But, by analogy to this, a grant to a corporation aggregate, limited as to the duration of its existence, without words of perpetuity being annexed to the grant, would only create an estate for the life of the corporation. * * * Grants of franchises and special privileges are always to be construed most strongly against the donee, and in favor of the public."

In *Wyandotte Electric Light Co. v. City of Wyandotte*, 124 Mich. 43, 82 N. W. 821, the Supreme Court of Michigan considered an application to restrain interference with poles and wires of an electric light company, and said:

"If a railroad company were organized for a period of 30 years, and a party, natural or corporate, should grant it a right of way without specifying the time of user, the grant would be for the lifetime of the corporation. The law would imply that both parties contracted with reference to its period of existence. The same rule is applicable here"—citing *Turnpike Co. v. Illinois*, supra.

To the same effect are *Blair v. Chicago*, 201 U. S. 400, 481, 26 Sup. Ct. 427, 50 L. Ed. 8018; *City of Rock Island v. Central U. Tel. Co.*, 132 Ill. App. 248; *Virginia Canon Toll Road Co. v. People*, 22 Colo. 429, 45 Pac. 398, 37 L. R. A. 711.

462 We think the facts of this case in the light of the foregoing authorities disclose the intention that the company should have and enjoy the franchise in question at least for the period of its corporate existence, and that its assigns or successors might thereafter hold and enjoy the same at the will of the city only.

This conclusion reconciles many if not all of the apparent inconsistencies of the situation, and is not in disharmony with the

principle declared in *Detroit v. Detroit Citizens' St. Ry. Co.*, 184 U. S. 368, 395, 22 Sup. Ct. 410, 46 L. Ed. 592, and *State ex rel. City of St. Louis v. Laclede Gaslight Co.*, 102 Mo. 472, 14 S. W. 974, 15 S. W. 383, 22 Am. St. Rep. 789, that a corporation whose corporate existence was limited to a term of years could accept a grant or make a contract extending beyond the limit of its corporate life. The question here is not whether a lawful contract could be made for a term extending beyond the corporate life of the company, but relates to the probative force which limited life tenure among other facts and circumstances has in construing a contract of uncertain and ambiguous character like that under consideration.

It follows that the electric light and power company at the time of the threatened removal of its equipment by the city was occupying the streets as a licensee at the will of the city. Without passing on the question whether the grant of a franchise to use streets for "an electric light business" is sufficiently comprehensive to include the right to use them for the purpose of transmitting electric current for heat and power purposes, we think the decree dismissing the bill was correct on the ground that the franchise to use the streets for any purpose had expired before this writ was brought.

The decree below is accordingly affirmed.

464 Mr. LAMBERT: The respondent offers in evidence Exhibit U, the same being the deposition or affidavit of Waldemar Michaelson, in the case of Omaha Electric Light & Power Co. vs. the City of Omaha et al., Docket Y Page 105, as appears in the transcript of record of said case to the United States Circuit Court of Appeals, and being a duly certified transcript, or a part of the transcript of said record, and appearing upon pages — hereof.

Mr. McHUGH: The complainant objects to the offer as incompetent, irrelevant and immaterial and no proper foundation having been laid therefor, it being testimony in a case to which the complainant was not a party, and the complainant not having any opportunity to examine or cross-examine the said witness.

EXHIBIT U.

In the Circuit Court of the United States within and for the District of Nebraska, Omaha Division.

OMAHA ELECTRIC LIGHT AND POWER COMPANY, Complainant,

vs.

THE CITY OF OMAHA and WALDEMAR MICHAELSON, Defendants.

Doc. "Y", Page 105.

Affidavit of Waldemar Michaelson.

STATE OF NEBRASKA,
Douglas County, ss:

Waldemar Michaelson, being first duly sworn, deposes and says: That he is an electrician, the City Electrician of the City of Omaha,

and has been since January 5, 1904, and that he was graduated from the Polytechnical Institute, Copenhagen, Denmark, in the year 1890, and possesses technical knowledge with reference to electricity and the uses thereof for power, heat and lighting purposes. Affiant further states that the Omaha Electric Light & Power Company in furnishing electricity to its patrons in the City of Omaha for heating and power purposes where electric currents are used to any considerable extent for heating and power, places a separate meter for the purpose of determining the amount of electricity used for heat and power purposes, as distinct from
465 the amount used for lighting purposes; and that the said Omaha Electric Light & Power Company keeps a separate account of the amount of electric current so used for heat and power as distinct from the amount used for lighting purposes, wherever such electric currents are used for heat and power to any considerable extent.

Affiant further states that in 1885 and 1886, electricity was not used for heat and power purposes to any considerable or practicable extent, and that its use for such purposes was not sufficient to render it a merchantable or commercial commodity for those purposes, and electricity was not then recognized by persons familiar with its uses and possibilities as being practicable for heat and power purposes.

WALDEMAR MICHAELSON.

Subscribed in my presence and sworn to before me this 25 day of September, 1908.

[SEAL.]

JOHN A. RINE,
Notary Public.

466 Mr. LAMBERT: It is stipulated and agreed by and between the parties that it shall be considered as proven that the foregoing exhibits E, F, G, H, I, and U and Ordinances numbered 826, 3391, 3791, 4366, 5051, 5433, and 6804, and the contract between the city of Omaha and electric light company marked Exhibit F in the bill of complaint, the contract between the electric light company and the city in the bill of complaint, Exhibit I, and contract between the electric light company and the city marked in the bill of complaint Exhibit K, and the copy of the articles of incorporation of the New Omaha Thomson Houston Electric Light Company, as set forth in the Old Colony Trust Company Bill of Complaint, constitute all the testimony offered on the trial of the said cause wherein the Omaha Electric Light & Power Company was complainant and the city of Omaha, et al. were defendants, in the Circuit Court of the United States, at Omaha, Nebraska.

467 ED LEEDER, of lawful age, being first duly sworn according to law, testified in behalf of the respondent, as follows:

Direct examination by Mr. B. S. BAKER:

Q. State your name?

A. Ed Leeder.

Q. What is your present position?

A. Justice of the peace.

Q. How long have you lived in the city of Omaha?

A. Forty-seven years.

Q. Do you remember having been in the council a number of years ago?

A. Yes, Sir, I have a faint recollection of that.

Q. Were you from any certain ward or at large?

A. I was from the Fifth Ward.

Q. Do you recollect when that was?

A. I think it was from 1882 to 1886.

Q. During that time you took part as councilman?

A. Yes, Sir.

Q. And you were practically at all of the meetings?

A. Yes, Sir.

Q. In other words you were not only elected, but you qualified and officially served as one of the councilmen?

A. Yes, Sir.

Q. Do you remember, Mr. Leeder, of a franchise having
468 been granted to the New Omaha Thomson-Houston Electric Light Company?

A. Well, there were several franchises up during that time. Yes, I believe I do; there were quite a number of them, because we were inviting corporations to come here, and be kind to us, and help us make a city.

Q. Do you recall in the main what that franchise was?

A. I cannot, I do not know as I would remember that. It has been quite a while.

Q. Have you seen it or read it recently?

A. No, I have not. I have not seen one; but it has been so long ago that it is—well, I haven't had any more interest in it particularly. I did my part as I saw it and let it go at that, and then the record is what I must stand by.

Q. Do you remember the object and purpose of the franchise to the New Omaha Thomson-Houston Electric Light Company?

A. Yes, Sir. I remember the circumstance.

Q. Do you remember the object and purpose of the franchise?

A. Yes, I think I remember, as I stated, it has been quite a while ago, too long to refresh my memory, but I remember it.

Q. What was the purpose and object of it?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

469 A. As I said it was for lighting the city.

Q. No other purpose contemplated?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordi-

nance by an individual recollection of one of the members of the council, and leading.

A. I do not think so; just for the lighting of the city.

Q. Now, Judge Leeder, do you recall any conversation among the council, or with the representatives of the New Omaha Thomson-Houston Electric Light Company concerning any other purpose than that of lighting?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. No, I do not think there was, but the ordinance itself would probably—the only conversation—we had conversations together because of the interests—the corporate interests that came into the city naturally went and visited the different members of the council to help promulgate the interests which they had at that time. There is no doubt we had quite a number of talks on a good many things.

470 Q. You do not remember them?

A. I couldn't just now.

Q. In any of those conversations or meetings of the council when there were people, and especially the representatives of the New Omaha Thomson-Houston Electric Light Company, present was there any discussion or talk concerning any other purpose for which the franchise was granted than that of lighting the city?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. No, I do not think there was, because we generally considered those things of not being of a life-long proposition. We gave them certain rights, and that was as I understand it, to light the city, with certain candle power, and whatever things which pertained to it.

Q. In other words, there was no talk and no consideration of the use of electric current for any other purpose than that of lighting?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

471 A. No, that is the only way I remember it, gentlemen, is for the lighting purposes, for lighting purposes for the city of Omaha.

Q. Was there any talk at all for the use of electrical current for power purposes or any other purposes other than that of light?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to

affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. No, I do not think so, for the reason that power of that nature at that time had not been properly materialized so as to say whether it would be a success or not, and they could not have went into that at all because that power was a new baby born.

Q. You did not consider it at all in your franchise?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. No, I do not think so.

Q. Nor did you contemplate, or the council, when you were a member of it, giving to the electric light company, the New
472 Omaha Thomson-Houston Electric Light Company, any other privileges than that of lighting the city?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. That is the way I remember it; nothing only for the lighting purposes of the city.

Q. You were not conversant then with the possibilities of electricity for power or heating?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. Oh no, nor nobody else was at that time, nor anyone else.

Q. You neither had knowledge of it, or inception of it, nor did it enter into the discussion or considerations by the council either with or absent from the representatives of the electric light company?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

473 A. No, sir. We did not. I do not think we did. We could not have, because as I said, it was a new proposition.

Q. Not only that, as a matter of fact, from reasoning now that you could not then, but in fact you did not consider anything of that nature?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to

affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. You could not have done it, because the electric business was a venture at that time, and we considered that when people wanted to venture with their money to do something for the city, we wanted to grant them all the power and privilege we could, which we did under that ordinance, whatever it is—I have not looked at it for years, but as I talk more about it I seem to become more familiar with it. It is a long time ago 1882 to 1886.

Q. You are quite settled in your mind that nothing was in contemplation except that of light?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

474 A. I am satisfied that is the only thing that there was talked about then, and it seems to me that whether that was that contract or some other contract, where they did want a longer time, that something had been referred back to the committee to make further recommendations not to grant them anything only that which they sought. I would not be sure of that, but there is many things at that time had been referred back to the committee; they made it too sweeping; the corporations were asking too much, and in fact they would go back to the committee and recommend it to be accepted by them.

Q. Do you remember at that time of the granting of the franchise, that the corporation of the New Omaha Thomson-Houston Electric Light Company had been organized as a corporation?

A. No, I do not think it had. I do not think so.

Q. Do you remember in the talks with the representatives of that company and among yourselves about how long the franchise was to run?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council, and not responsive to any issue raised by the pleadings.

A. I forget how many years, but it was a limited number of years; it was limited to some years, whether it was ten or twenty years I forget.

475 Q. Mr. Witness, do you recall that they were to organize their company for a definite time?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council, and not responsive to any issue raised by the pleadings.

A. Yes, sir.

Q. Is your recollection now that they did form their corporation in accordance with your view and talks and for the period for which the franchise was contemplated?

Mr. McHUGH: Objected to as being incompetent, irrelevant and immaterial and leading, and not responsive to any issue raised by the pleadings, and an attempt to modify an ordinance by the recollection of the individual alderman.

A. Well, they must have done it, for the reason—or we would not have granted it. I will say further that there were many times people came in there saying to the council, "Now, if you gentlemen would be willing to give us a franchise for this and that we would go ahead and do certain things, and we will be willing to do certain things, but before we go into this we want to be sure we will have the assurance of the council to get the franchise." These things were generally talked over, waterworks, and gas, and everything
476 of the kind, but men wanted to venture with their money; they wanted to be sure that they would have a number of years to realize on their money.

Q. If, as a matter of fact, the franchise granted to this electric light company incorporated for the period of 20 years?

A. I think so.

Q. Following the granting of that franchise, would you say that was in accordance with the understanding of the council?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council, and as leading.

A. It would be my understand, and as I recall it that was the opinion of the council at that time. I think is what it was—twenty years.

Q. Mr. Witness, you spoke of the undeveloped condition of electric current at that time. Do you remember that there was discussed at that time any possibilities other than that of lighting?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. No. That was all it was. It was the lighting of the city.

477 Q. You probably had read the current literature literature that came along more or less concerning experiments that were made by electric current for power?

Mr. McHUGH: Objected to by the complainant as being incompetent irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordi-

nance by an individual recollection of one of the members of the council.

A. Well, I will tell you the first experiment that the Houston & Thomson people made was on the corner of 14th and Douglas streets.

Q. Do you remember when that was?

A. No, I could not say. But it was a little before that or a little after the franchise had been granted when they asked the council to come there. They had a great big arc light and people came there for miles around to see the first electric spark touched off on 14th and Douglas streets. I remember that because it was between me and Henry Hornberger's place. I had a saloon there, and Hornberger had one on the other side, and they put it on the corner of the street and turned on the power to see what lighting power it would have, and I remember that it concentrated all the bugs of the state of Nebraska—the light did.

Q. You have, since the passing of that ordinance in 1884,
478 you are now familiar with the fact that electric current does furnish power?

A. The light power.

Q. And for other things?

A. Yes, sir.

Q. How long was it after 1884 before you learned or became cognizant of the fact that they could generate power?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial, it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. Quite a number of years after.

Q. And that came as a new thought and a new idea?

Mr. McHUGH: Objected to by the complainant as being incompetent, irrelevant and immaterial it being incompetent for the city to affect or modify or explain the meaning and purpose of an ordinance by an individual recollection of one of the members of the council.

A. Yes, sir.

Cross-examination.

Questions by Mr. W. D. McHUGH:

Q. Mr. Leeder in 1884 the city of Omaha was young?

A. Yes, sir.

Q. And it was in need of development?

A. Yes, sir.

479 Q. And the city council recognized that?

A. Yes, sir.

Q. You passed an ordinance inviting electric light companies to come in here by a general blanket ordinance, do you remember that?

A. I cannot say that I do.

Q. You do not remember that?

A. No, sir.

Q. But you recognized that the city needed for its development modern appliances of all kinds?

A. Yes, sir.

Q. The city by granting a franchise to individuals or corporations secured the benefit of the modern appliances and in that way stimulated the growth of the city that you understood and acted upon?

A. Yes, sir, we invited people to come here and help us enlarge the city of Omaha.

Q. You did not think, did you that this electric light company was merely to light the streets of the city of Omaha?

A. Yes, I did.

Q. Just to light the streets of the city of Omaha?

A. Yes, sir.

Q. That was your idea as you recall it now?

A. Yes, sir.

Q. That it was to do nothing but to light the streets of the city of Omaha?

A. Yes, sir.

Q. And that is your recollection of the ordinance?

A. Yes, sir that is my recollection of the ordinance.

Q. And of course that is your recollection of it and your view of it?

A. I will tell you, the reason I think it is pretty near right is this, I would not as one individual vote away the rights of the citizens forever more. I feel that that would be going too far. I wanted to be fair with all corporations, railroads, and all the corporations and individuals, private or otherwise who wanted to help us to do the things which you say; it don't make any difference whether it is lights, railroads, streets or alleys, anything that would benefit the streets of Omaha, we conceded them some rights and privileges.

Redirect examination.

Questions by Mr. B. S. BAKER:

Q. In answer to Judge McHugh's question as to lighting the streets only, you have in contemplation the right for them to furnish lights for residences?

A. No, I think that that was just the street light proposition at that time as I remember it.

Q. And whatever powers were granted it was your thought at the time and in conversation with the council the council thought—they thought it was for the purpose of street lighting?

Mr. McHUGH: Objected to by the plaintiff as being incompetent, irrelevant and immaterial, and for the reason that it is incompetent for the city to modify or affect the meaning of the ordinance by the recollection of any particular alderman.

A. Yes, sir, because the gas was not strong enough and we wanted things that would make it stronger, and as we have them now, you notice they are getting better lighted every year, and that was our intention, and for better light.

Q. You let them operate for a definite period?

Mr. McHUGH: Objected to by the plaintiff as being incompetent, irrelevant and immaterial and for the reason that it is incompetent for the city to modify or affect the meaning of the ordinance by the recollection of any particular alderman.

A. Yes, sir, I think for 20 years; that was the ordinance.

Q. At least that was your understanding that that was to be the life of their franchise?

Mr. McHUGH: Objected to by the plaintiff as being incompetent, irrelevant and immaterial, and for the reason that it is incompetent for the city to modify or affect the meaning of the ordinance by the recollection of any particular alderman.

482 A. Yes, sir.

Witness excused.

By agreement of the parties hereto the signature of the witness to the foregoing deposition is hereby expressly waived.

THOMAS H. DAILEY, of lawful age, being by me first duly sworn as a witness in behalf of the respondent, testified as follows:

Direct examination by Mr. W. C. LAMBERT:

Q. State your name?

A. Thomas H. Dailey.

— You are now connected with the city of Omaha and in what official capacity?

A. I am deputy city clerk.

Q. How long have you been connected officially with the city?

A. Since 1906.

Q. Prior to that time you had been an official of the city holding different positions?

A. Yes, sir.

Q. And at one time you were councilman?

A. Yes, sir.

483 Q. Mr. Dailey, I will hand you a book called Record of the City Council "T" of the City of Omaha for the years September 5, 1884 to May 12, 1885. I will ask you to examine it and state if that is a part of the records of the office of the City Clerk of the city of Omaha?

(Handing the witness City Council record "T.")

A. Yes, sir.

Q. And you now produce that?

A. Yes, sir.

Q. You may state whether or not it contains the council pro-

ceedings with reference to the passage of ordinances and matters of that character within the period of time therein stated?

A. It does.

Q. I will ask you to turn to page 291 of that record and state if it contains any of the proceedings with reference to the introduction or passage of ordinance #826 of the City Council of Omaha?

A. Yes, sir.

Mr. LAMBERT: The respondent offers in evidence Exhibit X the same being a part of the records of the City Council of the City of Omaha, same being Book T for the years September 5, 1884 to May 12, 1885, containing all the proceedings with reference to the introduction, committee reports, action of the City Council and the final passage of Ordinance 826, and being as follows: There being no objection.

EXHIBIT X.

COUNCIL CHAMBER, *November 25, 1884.*

The following proceedings were had on Ordinance No. 826, on p. 291, Journal T.

"An ordinance granting right of way to the Omaha New Thomson & Houston Electric Light Co. and regulating the same and prescribing penalties for the violating of the ordinance was read the first time, on motion the rules were suspended and ordinance read the second time by title and was referred to the committee on gas and electric lights."

COUNCIL CHAMBER, *December 11th, 1884.*

The following proceedings were had on Ordinance No. 826 on pp. 329-330, Journal T.

Mr. President:

Your committee to whom was referred ordinance relating to New Thomson & Omaha Electric Light Co. respectfully report that the following amendment be added by the clerk to the first section of the ordinance.

"And provided further that whatever the city council shall by ordinance declare the necessity of removing from the public streets or alleys of the city of Omaha the telegraph, telephone or electric light poles or wires therein constructed or existing said company shall within sixty days from the passage of such ordinance remove all poles and wires from said streets and alleys by it constructed or operated."

With the above amendment your committee recommend the passage of said ordinance.

C. C. THRANE,
WM. ANDERSON,
JNO. B. FURRAY,
Comit. G. & E. Lights.

Report placed in file.

COUNCIL CHAMBER, *December 11, 1882.*

The following proceedings were had on ordinance No. 826 on p. 334, Journal T.

"The ordinance granting right of way to the Omaha New Thomson & Houston Electric Light Co. and regulating the same and prescribing penalties for the violation of this ordinance came up in its third reading."

"It was moved that the ordinance be re-committed back to committee on Gas & E. Lights to be amended and engrossed as per report of said committee."

COUNCIL CHAMBER, *December 16, 1884.*

The following proceedings were had on Ordinance No. 826 on p. 346 to 347, Journal T.

"An ordinance granting right of way to the Omaha New Thomson & Houston Electric Light Co. and regulating the same and prescribing penalties for the violation of this ordinance" was read the third time. On motion the rules were suspended and ordinance placed upon its final passage.

Yeas, "11"; Hascall, Leeder, Redfield, Thrane, Woodworth and Mr. President.

Nays, "0."

Ordinance passed and title agreed to.

The respondent rests.

Mr. McHUGH: It is stipulated and agreed that the city of Fremont, Nebraska was in the year 1881 a city of the second class, organized under the laws of Nebraska.

The complainant now offers in evidence the following sections of the compiled statutes of the state of Nebraska for the year 1881, relating to powers of cities of the second class and villages, as follows, marked Exhibit V.

Mr. LAMBERT: Objected to by the respondent as being immaterial and irrelevant.

EXHIBIT V.

XII. (Penalties.) To make all such ordinances, by-laws, rules and regulations, resolutions, not inconsistent with the laws of the state, as may be expedient, in addition to the special powers in this chapter granted, maintaining the peace, good government, and welfare of the corporation, and its trade, commerce and manufactories, and to enforce all ordinances by inflicting fines or penalties for breach thereof, not exceeding one hundred dollars for any one offense, recoverable with costs, and in default of payment, to provide for confinement in prison or jail, and at hard labor upon the streets or elsewhere, for the benefit of the city or village.

SEC. 39. (Ordinances.) Cities of the second class, in their corporate capacities are authorized and empowered to enact ordinances

for the following purposes in addition to the other powers granted by this act. (Amended Feb. 28. Took effect June 1, 1881.)

* * * * *

XXI. (Obstructing Streets.) To regulate and prevent the use of streets, sidewalks and public grounds for signs, sign posts, telegraph or other poles, racks posting of hand bills and advertisements.

XXII. (Sidewalks.) To regulate the use of sidewalks and all structures thereunder.

XXIII. (Obstructing streets.) To regulate and prevent the moving of buildings through or upon the streets, and to regulate and prohibit the piling of building material or any excavation or
488 obstruction of the streets.

* * * * *

(From pg. 118 the following subdivisions:)

XXIV. (Removal of obstructions.) To remove all obstructions from the sidewalks, curb stones, gutters, and cross walks, at the expense of the person placing them there, or of the city or village, and to require and regulate the planting and protection of shade trees in the streets, the building of bulk heads, cellar and basement ways, straisways, window and doorways, awnings, hitching posts and rails, lamp posts, awning posts and all other structures projecting upon or over and adjoining, and all other excavations through and under the sidewalks, in said city or village.

* * * * *

XXVII. (Open and widen streets.) To open, widen or otherwise improve or vacate any street, avenue, alley or lane within the limits of the city or village; and also to create, open and improve any new street, avenue, alley, or lane; provided, that all damages sustained by the citizens of the city or village, or of the owners of the property therein, shall be ascertained in such manner as shall be provided by ordinance; provided further, that whenever any
489 street, avenue, alley, or lane shall be vacated, the same shall revert to the owners of the adjacent real estate, one-half on each side thereof.

XXVIII. (Same.) To create, open, widen, or extend any street avenue alley or lane, or annul, vacate, or discontinue the same whenever deemed expedient for the public good, and to take private property for public use or for the purpose of giving right of way or other privilege to any railroad company or for the purpose of erecting or establishing market places, or for any other necessary public purpose; provided, however, that in all cases the city or village shall make the person or persons, whose property shall be taken or injured thereby, adequate compensation therefor, to be determined by the assessment of five disinterested householders, who shall be elected and compensated as may be prescribed by ordinance, and who shall, in the discharge of their duties, act under oath, faithfully and impartially to make the assessment to them submitted.

Mr. McHUGH: The complainant now offers in evidence Exhibit W, the same being a part of the compiled statutes of the state of

braska for the year 1883, defining the powers of cities of the second class and villages, being Section 39, and subdivisions 21, 22 490 and 23, and also Section 69 and subdivisions 24, 27 and 28 thereof.

Mr. LAMBERT: Objected to as being immaterial and irrelevant.

EXHIBIT W.

SEC. 39. (Ordinances.) Cities of the second class in their corporate capacities are authorized and empowered to enact ordinances for the following purposes in addition to the other powers granted by this act.

* * * * *

XXI. (Obstructing streets.) To regulate and prevent the use of streets, sidewalks, and public grounds for signs, sign posts, telegraph or other poles, racks, posting of handbills and advertisements.

XXII. (Sidewalks.) To regulate the use of sidewalks and all structures thereunder.

XXIII. (Obstructing streets.) To regulate and prevent the moving of buildings through or upon the streets and to regulate and prohibit the piling of building material or any excavation or obstruction of the streets.

* * * * *

SEC. 69. (Additional powers.) In addition to the powers hereinbefore granted cities and villages under the provisions of this chapter, each city and village may enact ordinances or by-laws for the following purposes:

491 XXIV. (Removal of obstructions.) To remove all obstruction from the sidewalks, curb stones, gutters and cross walks, at the expense of the person placing them there or of the city or village, and to require and regulate the planting and protection of shade trees in the streets, the building of bulk heads, cellar and basement ways, stairways, railways, window and door ways awnings, hitching posts and rails, lamp posts, awning posts, and all other structures projecting upon or over and adjoining, and all other excavations through and under the sidewalks, in said city or village.

* * * * *

XXVII. (Open and widen streets.) To open, widen, or otherwise improve or vacate any street, avenue, alley or lane within the limits of the city or village; and also to create open and improve any new street avenue, alley or lane; provided, that all damages sustained by the citizens of the city or village, or of the owners of the property therein, shall be ascertained in such manner as shall be provided by ordinance; provided further, that whenever any street avenue, alley, or lane shall be vacated, the same shall revert to the owners of the adjacent real estate, one-half on each side thereof.

492 XXVIII. (Same.) To create open, widen or extend any street, avenue, alley, or lane, or annul vacate or discontinue the same whenever deemed expedient for the public good,

and to take private property for public use or for the purpose of giving right of way or other privilege to any railroad company, or for the purpose of erecting or establishing market places, or for any other necessary public purpose; provided, however, that in all cases the city or village shall make the person or persons, whose property shall be taken or injured thereby, adequate compensation therefor, to be determined by the assessment of five disinterested householders, who shall be elected and compensated as may be prescribed by ordinance, and who shall, in the discharge of their duties act under oath faithfully and impartially to make the assessment to them submitted.

Mr. McHUGH: The complainant now offers in evidence the testimony of W. J. Jenks, it being agreed that the same shall be considered as in evidence in all respects as though the witness were present and testifying, the same being received subject to all proper objections other than incompetency, in accordance with the stipulation, it being agreed that the witness may read and produce extracts from publications in all respects as though the original publication had been produced. The same is therefore received, as follows:

493 Mr. BAKER: The deposition of Mr. William J. Jenks is objected to by the respondent as being irrelevant and immaterial.

Said deposition of William J. Jenks, is as follows:

494 *Deposition of W. J. Jenks.*

495 WILLIAM J. JENKS, a witness called on behalf of complainant, being first duly sworn according to law, deposes as follows:

Q. State your name and residence?

A. William J. Jenks; Brooklyn, New York.

Q. Have you had any experience in the matter of the early application of electricity to useful purposes?

A. I have.

Q. State what your experiences and qualifications have been in regard to those matter?

A. In 1872 I was a telegraph operator, and in 1878 a telephone exchange promoter and manager. As far back as 1882 I observed the art of electrical distribution from central stations in connection with the Brush and Edison systems of electric lighting. In 1883 I was manager of one of the pioneer Edison central stations. In 1884 I organized a wiring company for interior equipment of buildings for the use of incandescent electric lighting. In 1885 I installed a street lighting system by Edison lamps supplied from a central station; I had the management of a standardizing bureau for the Edison Electric Light Company in 1887 and 1888. From 1896 to 1911 I was Secretary of the Board of Patent Control of the General Electric and Westinghouse Companies; I am a member of a number of engineering societies including the American Institute

of Electrical Engineers. I have acted as an expert witness in a large number of patent cases, particularly with reference to patents dealing with electricity, and for 20 years last past, a branch of my work has been the gathering and care of literature, foreign and domestic and scientific and popular, with respect to electricity and appliances for the utilization of electrical energy for a large number of useful purposes.

496 Q. Have you read the testimony of William J. Hammer, Axel Holm, Thomas A. Edison and A. J. DeCamp, witnesses for the complainant in this cause?

A. I have.

Q. Consider the statements which appear in the testimony of these witnesses as to the state of the art of electrical distribution at the close of 1884, and say whether or not you agree with the said statements in so far as they relate to or affirm a general knowledge on the part of intelligent people throughout the world as to the functions and capabilities of systems of electrical distribution for the supply of light and motive power, as taught and practiced at and prior to that time; quoting from the literature of the art if you care to do so, and otherwise giving your reasons for any opinion you may express?

A. For the convenience of the court I will at the outset assemble some of the statements to which I understand this question to refer most directly, by reading into the record the following quotations from the testimony of the witnesses specified, as follows:

(W. J. HAMMER:)

"10 Q. What is the fact, Mr. Hammer, as to whether on and prior to December 1884 it was known that electrical energy could be utilized for the production of power and heat and for other purposes, as well as for the production of light?

A. It is a well known fact that at the inception of Mr. Edison's early work at Menlo park, in connection with the electric light, in the distribution of electrical energy, as contemplated by him, there were manifold uses to which it could be put, not merely for electric light but for power and heating and electro-plating and other purposes.

497 11 Q. That was known prior to December, 1884?

A. Oh, long prior.

12 Q. What is the fact, Mr. Hammer, as to whether it was known, on and prior to December, 1884, how those various uses of electrical energy could be made available to a community?

A. It was Mr. Edison's intention to develop a complete system embracing a central station containing a generating apparatus, engines, boilers, dynamos, etc., and a system of feeders and mains, constituting a conductor system, to be laid in the streets of a city and connected with the generating station, for the supplying of this district of a city, or a city as a whole, with electrical energy for various purposes.

13 Q. And the various purposes that you mention include light and power and heat and electro-plating, I suppose?

A. Certainly.

14 Q. Mr. Hammer, prior to December, 1884, what is the fact as to whether Mr. Edison had invented a system of electric lighting?

A. Mr. Edison had developed and perfected such a system of electric lighting long prior to 1884.

15 Q. You may state whether, prior to December, 1884, there was installed and in operation at Menlo Park, as mentioned, a plant utilized for the generation, distribution and equalization of electrical energy?

A. There was."

(A. J. DeCAMP:)

15 Q. You are familiar with the business of electric light companies from the beginning of their installation in this country?

A. Yes, sir.

16 Q. And familiar with the business done by electric light companies from the time they were organized and installed their plants in the United States?

A. Yes.

17 Q. You may state what was included from the beginning in the United States in the business done by electric light companies?

A. The business of electric light companies from the beginning was recognized as the generation of electrical energy at a central station and the distribution and sale of this energy for all purposes for which it was practicable."

(THOMAS A. EDISON:)

498 "2 Q. You have been entirely familiar with the electric light business from the time those companies were first organized?

A. Yes, sir.

4 Q. What was embraced in the function performed by the electric light company from the beginning of those companies?

A. Why, selling current for light and power.

5 Q. On and prior to December, 1884, did the term 'General electric light business' have a recognized meaning?

A. The words 'General electric light' were not used, to my recollection, but the words 'electric light' were what were generally used.

6 Q. And they had a definite meaning?

A. Yes, sir.

7 Q. And what was that meaning on and prior to December, 1884?

A. It meant generating a current from a central station and distributing it over wires to many customers for use for lighting and motors."

These quoted statements refer to public knowledge in 1884 as to what might be accomplished and also as to what had actually been accomplished in the creation and operation of systems for generating, distributing and supplying electricity to lamps, motors and any other useful devices by which the energy of electricity

might be transformed or translated to such useful form as light, motion, heat or chemical action. In most cases the extent of such public knowledge is best indicated by and proved from the literature of the art and the press generally. I will discuss this knowledge thus indicated, under several general heads, as follows:

Scientific Teachings by Eminent Persons Prior to 1879.

In 1877 Charles William Siemens was elected President of the Iron and Steel Institute which was organized in 1869. Dr. Siemens had prior to 1877 practically introduced the Bessemer steel 499 process, and was recognized as one of the most eminent living scientists. In his inaugural address as recorded in the Journal of the Institute published in that year by Spon in London, pages 6-34, he gave a table of the coal areas and annual coal production of the entire world, showing that in 1874 this production reached about 275,000,000 tons, and estimated the probable life of the coal deposits which were then known to exist. Farther on he took up the possibility of utilizing other natural fuels, such as mineral oils, natural gas, etc.; also of making available the force of the wind and the energy of stored water when impounded by nature as in the great lakes of the American Continent. His exact language is particularly important in this connection because of the world-wide interest which resulted from these utterances of this master in the domain of science:

"Take the Falls of Niagara as a familiar example. The amount of water passing over this Fall has been estimated at 100 millions of tons per hour, and this perpendicular descent may be taken at 150 feet without counting the rapids, which represent a further fall of 150 feet, making a total of 300 feet between lake and lake. But the force represented by the principal fall alone amounts to 16,800,000 horse power, an amount which, if it had to be produced by steam, would necessitate an expenditure of not less than 266,000,000 tons of coal per annum, taking the consumption of coal at 4 pounds per horse power per hour. In other words, all the coal mined throughout the world would barely suffice to produce the amount of power that continually runs to waste at this one great fall. * * * In order to render available the force of falling water at this, and hundreds of other places similarly situated, we must devise a practicable means of transporting power. * * * I cannot refrain from alluding to one which is, in my opinion, worthy of consideration, namely, the electrical conductor. Suppose water power could be employed to give motion to a dynamo-electrical machine. A very powerful electrical current will be the result, which may be carried a great distance through a large metallic conductor, and then be made to impart motion to electro-magnetic engines, to ignite the carbon points of electric lamps, 500 or to effect the separation of their combinations." See also Engineering (London), Vol. XXIII, pa. 233; Mar. 23, 1877.

The publicity which followed this broadly-expressed proposition for distributing light and power from a comprehensive generating center is attested by many subsequent publications. Among others, it appears that Dr. Siemens sent a letter to the London Times which was printed in its issue of October 12th, 1878, and afterwards reprinted in the *Telegraphic Journal of London*. Nov. 1, 1878, No. 138; p. 435. The following quotation from that letter relates to the Niagara Falls illustration:

"The suggestion gave rise to a good deal of discussion and criticism, especially in the United States; but I replied to some of these criticisms in delivering one of the science lectures at Glasgow, in March last, having already referred to the matter in a discussion that was held before the Institution of Civil Engineers on the 29th of January last."

These ideas were repeated in many ways and made the subject of many discussions during the next few years. In an article entitled 'M. Deprez's Discovery', the *New York Electrical Review* quoted a number of the original statements of Dr. Siemens and added comments and illustrations based upon the use of Niagara Falls as a source of natural power for long distance transmission, as follows (issue of March 22, 1883, p. 2):

"This current could be carried to New York City by conductors.

The wires might be tapped at any point en route just wherever power was needed, and the wires carried into factories just as
501 gas is now carried in by means of pipes. In the factory an electric motor might be placed of sufficient power to turn the shafting, and thus all the power required to run the innumerable factories and work shops and to supply electricity for lighting could be taken off along the line of the power transmitting wires."

Thus the first plans were described as those of vast systems devoted to power transmission. But as the details of lighting apparatus rapidly took definite form, and lighting devices were hailed as assisting in the solution of multitudes of problems, light first caught the impetus of commercial success, as more clearly appears in other parts of this answer, and became the symbol of electrical distribution for all the purposes to which distributed electricity had long been known to be applicable; such as motive power, heat and chemical action which Dr. Siemens had specified in the inaugural address from which I have quoted.

Among the many references to this flexibility of result, traceable more or less clearly to the broad proposition of Dr. Siemens, are the following:

Engineering (London), Vol. XXIII, pp. 233-234, March 23, 1877. Report of Address.

La Nature (Paris), October 4, 1879, pp. 286-287. "Motive Power from House to House by Means of Electricity."

Journal of the Society of Arts (London), Vol. XXIX, April 15, 1881, p. 462. Professor John Perry on "The Future Development of Electrical Appliances," in which he said "We shall * * * have great central stations * * * where enormous steam engines will drive enormous electric machines. We shall have wires

laid along every street, tapped into every house, as gas pipes are at present; we shall have the quantity of electricity used in each house registered, as gas is at present, and it will be passed through little electric machines to drive machinery, to produce ventilation, to replace stoves and fires, * * * as well as to give everyboday an electric light."

502 Dr. Siemen's disclosure of the possibility of long distance transmission was taken up by Sir William Thomson not only in his testimony before the Parliamentary Commission on Electric Lighting of 1879, but also in his Presidential address before Section A, of the British Association for the Advancement of Science, of the York meeting of 1881, the report of which was published in 1882, pp. 516-518. Thomson made the following statements:

"Till I learned Faure's invention (of the storage battery) I could but think of step-down dynamos, at the main with its 80,000 volts (at the receiving end of the line from Niagara Falls) and supplying it by combined motors and dynamos through proper distributing wires, to the houses and factories and shops where it is to be used for electric lighting, and sewing machines, and lathes, and lifts, and whatever mechanism wants driving power."

This is essentially the plan illustrated and described in Edison's U. S. patent, No. 287,516.

Early Combined Uses of Light and Power in Europe.

Alexander Siemens, one of the famous Siemens trio of scientific brothers, delivered a lecture in 1881 before the Society of Arts in London on "Electric Railways and Transmission of Power by Electricity," which in addition to appearing in the Minutes of that Society was republished in the Scientific American Supplement (New York) of November 12, 1881, pp. 4871-4874. He said:

"When the more perfect forms (of dynamos) were invented, electric lighting monopolized for a time all the attention that was bestowed upon the practical application of the machine.

503 During the efforts which had been made to introduce electric lighting on a large scale, the ideas of applying the light-giving machines during daytimes to distribute power has come to the front again and as such an application means a further utilization of the invested capital, the combination of lighting with transmission of power is sure to be made."

"In day time this current transmits the power of the turbine to the house (of Sir William Armstrong, near New Castle), where it is used for various purposes, and at night it is converted into light by means of Swan Lamps of which it works between 30 and 40. This application deserves special mention because it is one of the earliest examples of transmission of power by electricity for practical and permanent purposes.

"In the same way Dr. Siemens utilized some dynamo machines at his country house near Tunbridge Wells."

In his presidential address at the meeting of the British Associa-

tion for the Advancement of Science, commencing August 23, 1882, Dr. Siemens stated the result of the actual use of motors and lamps for about two years as follows: (Sci. Am. Sup. Sept. 20, 1882).

"To agriculture, electric transmission of power seems well adapted for effecting the various operations of the farm and fields from one center. Having worked such a system myself in combination with electric lighting and horticulture for upwards of two years, I can speak with confidence * * *.

Simultaneous Use of Lamps and Motors on Electric Railways.

Many articles appeared in the technical journals prior to December, 1884, which described con-current supply of propelling motors and incandescent or arc lamps from the same source. Among these I mention a few:

"Electrical Review (London), April 21, 1883, pp. 322 and 323, article describing the Portrush electric railway:—"The
504 pump is worked by a strap from the Siemens machine, used as a motor, and the current is obtained from a somewhat larger machine, which is ordinarily used for lighting this room * * * without stopping the sewing machine, the whole of the 40 Edison incandescent lamps required for lighting this room shall be connected with the generator."

"A book by the French engineer Chretien, entitled "Chemin de Fer Electrique des Boulevards a Paris, published in Paris, 1881, stated "The underground electric plant is able to furnish in abundance the electricity needed for light as well as for motive power."

Paris Exposition of 1881.

This early exposition afforded the first adequate opportunity of assembling and demonstrating to the scientific world gathered to witness it, the practical utility of the first comparatively crude devices for electric light and power.

About two years after this Exposition the Count Du Moncel and Frank Gerdard published in Paris a book entitled "L'Electricite comme Force Motrice." As soon as an English translation was completed it was printed in London and New York under the title of "Electricity as a Motive Power," accompanied by a preface by the translator, C. J. Wharton, dated August, 1883. It has since been recognized as a standard reference book setting forth the knowledge of that time. In the introduction the two writers summarized the disclosures at Paris of progress by which the public as well as scientific men, had been so generally educated in 1881. The following are extracts from the volume:*

(Page 282) "Mr. Gravier hard at the Electric Exhibition
505 an installation of his system (separately excited generators of low internal resistance): He fed lamps and machines on six different circuits, his generating apparatus being 5 machines coupled together. (Thus he operated lamps and motors on the same circuit.)

(Page 285.) "Closely connected with the above system * * * is the Crompton-Kapp principle * * * At Messrs. Crompton's works, at Chelmsford, this machine (the Crompton-Kapp) is also used for the distribution of electric energy of every description. * * * From the main circuit the following operations are carried on independently of each other; viz: Lighting by means of Swan lamps in parallel, testing arc lamps, testing and classifying Swan lamps, charging secondary batteries, and transmission of motive power. * * * As most of these operations are carried independently of each other, it often happens that current is required at the same time for many different purposes. Yet there is no difficulty whatever in this, the machine always proving equal to the demand."

The most comprehensive and impressive of the European Exhibits was thus treated on page 283:

"The circuit from the Deprez generator almost made the round of the building, forming a total lead of about 2 kilometers; at various points chosen without distinction, and only taking into consideration kinds of apparatus, working machines for sewing, folding, cutting out, sawing, turning, etc. At one point a number were placed together and formed a small work shop, a branch being taken off for the production of light as well. At the end of the circuit was installed a printing press driven by a motor also supplied by a branch off the same circuit. All these were started or stopped at will, and each one quite independently of any other, thus forming an example of distribution. * * * At Messrs. Crompton's works, at Chelmsford, this machine is also used for the distribution of electric energy of every description."

The working installation above concisely described was more specifically referred to and illustrated by the attached diagrams in the periodical "Engineering" of London, issue of Dec. 9, 507 1881, page 984, under the heading of "The Deprez System of Electrical Transmission.":

"Thus the main circuit, arranged as described, fed, by means of successive and independent derivations, a series of miscellaneous machines, selected from those commonly in domestic use and small industrial service. Recapitulating, they comprise: 5 sewing machines; 4 wood-cutting machines; 1 machine for cutting metal; 3 plating machines; 2 gauffering machines; 1 chain-making machine; 2 watch-makers lathes; 1 drilling machine; 1 printing press; 1 galvanometer; 1 Gulcher arc lamp; 1 incandescent lamp; 1 Siemens machine; 3 commutators for applying the current to various purposes. * * * There were thus altogether 27 machines and tools supplied from one source of power."

(Here follows diagram marked page 506.)

M. Gramme machine, and 2000 for the Siemens. The two main conductors from which the various branches were led off have a special peculiarity. If they had been arranged as shown in the first figure, it will be seen that the successive derivations would be made at constantly increasing distances from the machine. More favourable conditions are obtained by bringing back each conductor to its point of departure, and in leading off each deriva-

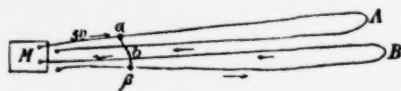


FIG. 4.

tion at an equal distance from the point of departure and the point of arrival of the two conductors. Thus, for example, the first derivation leaves at

that the speed of this latter was not modified, and that it continued to work without being in any way affected. The plan shows the general arrangement of the main circuit, and the approximate positions of the derivations. The apparatus worked on this circuit were as follows (see Fig. 5).

A wood-cutting machine A is driven by a small Deprez motor; b is the table on which the wood is placed; a represents the motor; C is a sewing machine, D a plaiting machine, E a sewing machine, F a small copper chain-making machine that was exhibited by M. Bunon; G is a gaufering and plaiting machine. All these were driven by separate Deprez motors. On the table H was placed a Deprez galvanometer and a Gülcher lamp J. These two, as well of the Lane Fox incandescence lamps K, and the Siemens machine L, were on successive sub-circuits as shown in the annexed sketch, Fig. 6. The

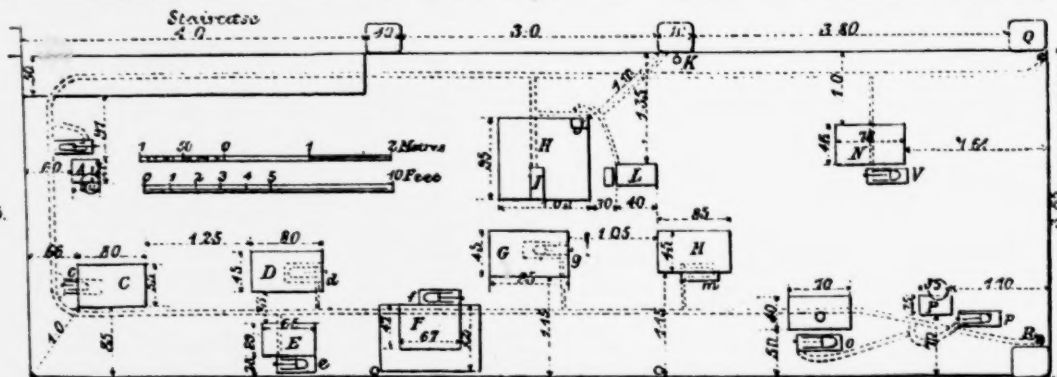


FIG. 5.

the point a, Fig. 4, at 50 metres from the first binding screw of the conductor A, and is connected at β at 50 metres from the end of the conductor B. If the total length of the conductors be 1000 metres,

other installations were as follows: M is a gaufering machine shown by M. Tuquet; N is a plaiting machine, and P a wood-cutting machine; these also were worked by separate Deprez motors. The sew-

Thus the Deprez operating central station plant showed numbers of lamps and motors supplied by the same conductors from the same generating source. The technical literature of that and several succeeding years is crowded with reports, conclusions and historical records of the phenomenal progress there first proclaimed by inventors and appreciated by the world at large. Among those publications which analyzed the essentials of a good system of central station distribution, the following translation from the widely read French serial, *La Lumiere Electrique* for 1881, Vol. V, pages 253-255, is from the pen of Frank Gerald, one of the editors of that well-known journal. It is most concise and emphatic upon the point covered by the present question:

"A system of distribution in order to be complete should fulfil three conditions; 1st, it is necessary that it be able to serve, according to their demands, any instrument whatever, independent one of the other. In other words, it is necessary that in placing in the circuit of this distribution, at any place and at any moment
508 whatever, machines consuming electricity whether in light or under the form of chemical action, or under the form of movement or under any other form of consumption one of them may be able to receive the quantity of electricity necessary for it without influencing the others on the same circuit at the same time in any manner."

The authors of this book by Du Moncel closed its final chapter with a prophetic view of the comprehensive results of the development distribution and sale of electric energy all of the purposes to which it was in 1883 recognized as being adapted by the mere operation of attaching to a single set of distributing conductors any one or all of the types of devices which had already been partially perfected and which were recognized at that time as being commercially valuable; namely, lamps, heating apparatus, chemical solutions and motors. The language of these closing sentences is graphic in its expression of the "Prospects for the Future" as they existed 30 years ago:

"This, then is the present position of the all-important question of the day—the transport and distribution of power by means of electricity. Much, very much has been done, but much yet remains to be accomplished. This progress may be summed up in one word: to bring electricity to the home. And electricity is at the same time light, chemical work and motive power; and that in the smallest quantity that may be desired at the disposal of the consumer, by the simple turning of a key. * * * Position (of natural forces) now means nothing, and we may demand a supply of power as we demand a supply of water or gas; the same fluid which gives us power can also give us light."

The following statement appeared in *The Engineer of London*, issue of 1881 and was copied into the *Scientific American*
509 Supplement of October 22, 1881, p. 4831, under the title of "Electric Power":

"Just now nothing save electricity is talked about in the Scientific circles. During the meeting of the British Association the great-

est possible prominence was given to electrical questions and propositions. * * * The daily press has taken the subject up, and journals which were nothing hitherto if not political, now indulge in magnificent rhapsodies concerning the future of electricity."

The Princeton Review of May 1881, contained an article entitled "Practical Uses of Electricity" by Professor Charles A. Young of the Princeton (New Jersey) College. This article was completely reproduced in the Scientific American Supplement of June 18, 1881, pp. 4542-4544. The following is an extract:—

"The electric plant being once established and electricity 'laid on' in the streets of a city as gas is now, it may be used very profitably for other purposes than that of lighting, especially the transmission of power. The electric plant may thus be made to earn revenue by day as well as by night. Unless we are much mistaken, electricity will be more used in the near future as a means of transmitting power than for any other purpose."

The Scientific American of Jan. 29, 1881, under the heading of "Dynamo Telegraphy," C. J. Kintner of the U. S. Patent Office discussed the use of mechanically operated generators at the large central office of telegraph companies. The article closes by saying:

"It is then entirely probable that within the next decade we shall find our large telegraphic corporations operating their
510 elevators, supplying their motive power, heat, and light throughout their buildings, and electricity for our lines from one common source of power * * *."

First Parliamentary Inquiry—1879.

Very early in the history of practical electric light development the house of Commons of the British Parliament appointed a Select Committee—

"to consider whether it is desirable to authorize Municipal Corporations or other Local Authorities to adopt any schemes for Lighting by Electricity; and to consider how far, and under what conditions, if at all, Gas or other Public Companies should be authorized to supply Light by Electricity."

This Committee which included Lord Lindsay, Dr. Lyon Playfair and thirteen other well-known men, called to its aid some of the ablest scientific minds in the kingdom, whose names then stood and still stand for high attainment, and whose published utterances carried much weight in the education of the great numbers of intelligent people in this country as well as in Europe. I quote briefly from a blue-book copy of the report of the Committee which was dated and ordered by the House of Commons to be printed, June 13, 1879, (the italics are mine):—

"The general nature of the electric light has been well explained in the evidence of Prof. Tyndall, Sir William Thomson" (afterward Lord Kelvin) "Dr. Siemens, Dr. Hopkinson and others. * * * A remarkable feature of the electric light is, that it produces a transformation of energy in a singularly complete manner.

* * * It is not therefore surprising that * * * the scientific witnesses see in this economy of force the means of great industrial development, and I believe that in the future it is destined to take a leading part in public and private illumination. * * * Scientific witnesses also considered that in the future the electric current might be extensively used to transmit power as well as light to considerable distance, so that the power applied to mechanical purposes during the day might be made available for light during the night. Your Committee only mention these opinions as showing the importance of allowing full development to a practical application of electricity which is believed by competent witnesses to have future important bearings on industry."

Copies of this report in its official "blue-book" form, were at once imported into this country and sold broadcast. The popular style of the testimony of the eminent teachers who were witnesses, the freedom from unnecessary technicalities, and the practical nature of the whole inquiry attracted wide attention to the publication. The abbreviated title which appeared on the blue cover was in four words "Report—Lighting by Electricity." The full statement on the title page was as follows:

"Report from the *Select Committee on Lighting by Electricity*; together with the Proceedings of the Committee, *Minutes of Evidence*, and Appendix, Ordered by the House of Commons to be Printed, 13 June 1879."

Thus not only those skilled in the various branches of the electric art, so far as they had been developed at the date of this publication, were taught to think, speak and write of "an electric lighting business," as a popular descriptive term intended to include not only any available type of electric lamp, but also any type of electric motor, which might be commercially attached to the electric lighting circuits or operated in connection with an electric lighting plant, through such conductors as were useful for electric light distribution.

The more important portions of the Report proper, including those sentences quoted above, were copied into leading scientific publications in the United States, and must be considered to have assisted in the dissemination of general knowledge this side of the ocean as to the possibilities and great prospective advantages of placing electric motors on the circuits of electric lighting systems, or operating them from the same source of mechanical power.

Second Parliamentary Inquiry—1882.

As one of the results of the parliamentary electric light investigation of 1879 came a second inquiry in 1882. The introduction of many isolated plants in different parts of Great Britain, and the lectures and addresses of eminent men during the three years which had elapsed since the first official agitation of the subject, led to the selection of a second parliamentary committee under date of April 19th, 1882, the total membership being 15 and the committee having power to send for persons, papers and records. Within 60

days thereafter, on June 12, 1882, the Committee reported in detail to the House of Commons including several hundred pages of testimony and recommendations. Thereupon the house passed what became known as "The Electric Lighting Bill." This report, like the one of three years previous, was printed and issued as an official "Blue Book" (including indexes, 310 pages, price 3 513 shillings) and was immediately scattered broadcast through Great Britain and sold and otherwise distributed among the people of the United States. From the resolutions presented by the Committee as part of its report, the following are of special interest:

(1) "That, for the purpose of facilitating experiments as to the practical application of electricity the Board of Trade be empowered to grant licenses to local authorities, or to private undertakers, with the consent of such local authorities, to supply electricity within a defined area.

(3) That the Board of Trade be empowered to grant provisional orders to local authorities, or to private undertakers without the consent of such local authorities, for the supply of electricity for purposes of light or power; but such provisional orders shall be subject to confirmation by Parliament.

(9) That local authorities be authorized to purchase the undertaking of any company or person authorized by provisional order to supply electricity at the end of 15 years, or at the end of any subsequent period of five years.

(11) That licenses and provisional orders should contain such regulations—

(a) For the securing the safety of the public from injury to life, or from fire;

(b) For inspection;

(c) For securing a regular and efficient supply of electricity;

(d) For fair prices * * *.

(13) That any undertakings authorized by private acts for the supply of electricity be subject to the conditions contained in this act.

(14) That local authorities supplying the electric light be required to keep separate accounts of such undertakings and to publish them in detail for the information of the rate payers.

The text of these resolutions adopted as expressing the conclusions of the Committee indicated clearly that what they proposed to authorize and encourage was, as stated in the 3rd resolution, "The supply of Electricity for purposes of light or 514 power;" or as the 11th resolution phrased it, "A regular and efficient supply of electricity" for any applications or purposes which it could serve; Those Applications being expressed collectively as "Supplying the electric light" (in resolution No. 14). Based upon this general description the Act of Parliament came to be popularly called "The Electric Lighting Bill." The intent was to license the generation, distribution and sale at the meter of the consumer, of what modern terminology calls more accurately, "Electrical Energy," for any purpose which it was then known to serve; although

the electric light was the application constantly referred to in the Minutes of the Select Committee.

That this view of the intent of the Committee was shared by the Scientific men who testified during its deliberations, appears in the answers made by Dr. John Hopkinson, a leading electrical authority at that time, and the scientist who greatly improved the Edison type of dynamo and who independently invented and patented in England the plan of electrical distribution known in this country as "The Edison Three-Wire System." The following questions and answers are quoted from this testimony, pages 216 and 217 of the Report:

"2673. The Bill says that the Board of Trade may license persons or companies to supply electricity for any public or private purposes within any area; It is not limited, as you see, to electric lighting?—No, I take it it is not; I take it that the Bill is to supply electricity, and not merely the electric light."

515 "2674. Now supposing the company to engage in what I may call a double operation, that is to say, electric light by night, and something else by day, a supply of force, or anything else you like, how would that be done practically?—A. I think there would be no difficulty there; do you mean as regards their charges?"

"2675. I mean as regards how they would do it?—A. There would be no difficulty whatever; the same mains, the same engines, and the same conductors would supply the same electricity for the lighting at night and for the power by day.

"2676. That is to say, as the day fell, you would turn it off from the factories, or whatever it might be, and use it for lighting purposes?—A. The factories would turn it off and on themselves; they would turn it off their lights and would use it for their cranes or whatever they required it for."

"2677. It would be in summer, we will say, used up to 7 or 8 o'clock at night, and then after that the manufacturer could use it for light?—A. The user could use it for one purpose or another at his pleasure."

"2680. Do I understand from you that corporations should not merely become proprietors of the new kind of light, but that they should also become traders in the sense of supplying power to manufacturing?—A. It is perfectly clear in the second clause of the Bill that the license is to supply electricity for any public or private purpose."

"2681. The corporation in buying the undertaking is also to assume with the undertaking the obligation and duty, and the profit whatever it may be, of supplying motive power as well as light?—A. The companies supply electricity; they do not supply light; you can no more say that they supply light than you can that a man selling candles is supplying light."

Sir William Thomason, (later Lord Kelvin) testified as follows:

"1793. Have you taken into consideration what was suggested to us in evidence by Dr. Siemens, viz., that for a practical realization of the electric light, it would be necessary, in cities, to associate it with

the distribution of power?—A. It would be advisable, certainly, to associate it with the distribution of power, because the same means that are used for giving light would be perfectly available for the distribution of power.”

“(Page 192). “1903. You suggested a very grand scheme for utilizing the power of the falls of Niagara, or other water-power at a distance; without going into detail at all, was your idea to make use of that power to produce enormous magnetical force, and to convey that force to a distance by wires?—A. Yes, to drive magnetic-electric machines by water-power applied to the neighborhood of the Falls; and to use conductors to transmit the current produced by those machines to the places where illumination is to be produced, or where the development of mechanical power is wanted. The light would be produced by the electric lamp wherever it is needed; the power would be produced by electro-magnetic engines driven by the current.”

The London Standard printed a statement of Mr. E. H. Johnson's testimony before the 1882 Committee as to essential features of electric light, subdivision from which the following is taken:

“Fourthly, means for utilizing the current to effect the desired work, whether for producing light, heat or power, or for any other purpose.”

Brush System of Combined Electric Lamps and Motors.

The first electric lamp was made by Sir Humphrey Davy about the year 1810. He arranged two sticks of carbon so that their distance apart might be adjusted and then readjusted by hand as the carbon electrodes were consumed by the current which passed from one to the other. The earliest experimental form of electro-magnetic motor was made about 1820 by Sturgeon. These two marvellous mechanisms, the electric arc lamp and the electro-magnetic motor, were quickly associated on the same circuits and combined in co-operative structures for the purpose of electric lighting by the successors of Davy who sought for automatic means of keeping the carbons in proper light-giving position as their ends burned away. Thereby such lamps operated successfully without human watchfulness, and were for many years called “regulators.” Thus electric arcs were intimately associated with regulating electric motors on the same circuits. In some such lamps made and used prior to 1884, these regulating motors were of the revolving armature type; for example, the variety described in the Scientific American of Aug. 21, 1880, page 116, as having been used since 1887; also those illustrated and described in Edison's U. S. Patent No. 251,531. In others the armature had a reciprocating motion, forward and backward, as did Page's electric locomotive of 1851.

Charles F. Brush perfected his “regulators” (each containing a lamp and a motor in series) up to a point where he could place several of them on the same circuit, the current passing from the single generator through the line conductor, then through a pair of lamp

carbons, then the motor which controlled them, then another section of line wire, then another lamp and its motor, and so on back to the generator. Thus he secured an electric lighting system capable of doing a general commercial electric lighting business, and rendered it easy by establishing a central station containing one or more of his generators, suitably actuated by a water wheel
518 or a steam engine, and one or more pairs of circuit wires, according to the number of centers of light demanded, or the extent of territory to be supplied, or both.

In describing and offering for sale that system of distribution he naturally proposed to secure from the current of each circuit not only the light which he had started out first to get, but in addition the power which he knew to be equally available from that current, either at each lamp or at any other points on each circuit, up to the current-supplying capacity of his generator. This combination of lamps and motors is illustrated and described in Brush's U. S. Patent No. — dated —.

The mutual effects of lamps and motors in series from the same generator were set forth in a volume published in 1878. Of the passage to which I specially refer, in "Expose des Application de l'Electricite," Vol. V. 1878 pp. 419-420, a translation reads as follows:

"By placing into the circuit of the current where it leaves the motor an arc lamp, this lamp will operate as regularly as though no motor were interposed in its circuit but necessitates an increase in the quantity of electricity employed; (in more modern language, an increase of the potential by which the current is propelled through the circuit). If during the course of this experiment the motor is prevented from turning, we at once see the light of the arc lamp increase by the entire quantity due to the electricity (potential) absorbed by the work of the motor, and which being no longer employed by the same, increases the light by that much."

The arc light-giving devices have always been, when applied to general systems, utterly impractical and uncommercial unless they were individually combined with their respective
519 regulating motors. When so combined, each composite lamp as perfected by Brush, has always been independent of other lamps and of all the comparatively large electric motors scattered over the series circuit and developing power for various purposes.

The same idea of securing distributed electric lighting but by the use of incandescent instead of arc lamps, with incidental utilization of their series circuits for electric power by attachment of motors was embodied in an early U. S. Patent granted to Sawyer, No. 194,111, dated Aug. 14, 1877. The following statement occurs in its specification:

"The object of my invention is to supply the streets, blocks, or buildings of a town or city in a practical manner with any desired quantity of electricity for the purpose of electric illumination, electro-plating, the running of electric-magnetic engines, etc."

The statement just quoted, and also the patent drawing in which lamps and motors are shown in series on the same circuit, appear in

a chapter on "General Distribution," pp. 150-151 in a printed publication by the inventor Sawyer entitled "Electric Lighting by Incandescence, and its Application to Interior Illumination." This is a book of 185 pages containing a preface by Sawyer dated New York, January 15, 1881, and copy righted by the publisher, Van Nostrand, in that year.

One form of a reciprocating motor for the automatic regulation of electric generators was developed by Sawyer & Man and patented in the United States June 25, 1878, No. 205,305. Another was brought out by Hiram Maxim, and illustrated on pp. 140-141 of Sawyer's book above referred to. On page 142 he described a means of automatically operating this motor as shown in U. S. Patent to Thomson and Houston No. 223,659 dated Jan. 20, 1880; and quoted a claim which describes the motor as traversed by the current of the machine, and hence in series with the lamps. Having thus prepared to serve lamps and motors on the same circuits, the Brush Company published descriptions and illustrations of its methods of distribution in many printed serials and pamphlets commencing with about Jan. 1st, 1882. Among these I note the following of which a number are taken from the daily papers of New York City:

1882, Jan. pamphlet "The Brush Electric Light," p. 18.

1882, Dec. 20, article in the New York World entitled "Storage of Electricity for Electric Light."

1882, Dec. 20, New York Tribune printed a notice headed "Storage of Electricity." The Brush System. First Public Exhibition. Advantages Claimed for this Method." This article related to an exhibition on the evening of December 19th at 853 Broadway, cor. 14th St., New York City. The Tribune said: "It is proposed to supply power as well as light from the batteries. A small electric motor of 1 hp. was used last evening to revolve a small shaft at the velocity of 1800 revolutions a minute."

1882, Dec. 30, Scientific American, Vol. 47, p. 423.

1883, Jan. Catalogue "Brush-Swan Electric Light. The Swan Electric Incandescent Lamp. The Brush Arc Light and Storage System."

1883, Jan. 1: Review of the Telegraph and Telephone (later called The Electrical Review). Article entitled "The Brush Storage System."

1883, Feb. 1: Same publication; p. 369.

1883, Apr. 26: Same publication: p. 4, as follows: "From the same batteries power can also be taken for running small motors for sewing machines lathes, etc. the whole system of batteries, lamps and motors can be seen by any one interested in the matter, at the Company's office No. 853 Broadway, where they have been in operation all winter."

The last quoted statements were republished, *literatim*, on page 2 of the issue of the Review dated Jan. 17, 1884.

Page 1 gives a cut illustrating a portion of a city street lined with buildings of three and four stories, some of which are shown in section to illustrate the interior of a central station containing

boilers, engines and Brush dynamos; from which building issues a series circuit extending to different floors of other buildings and to arc lamps on the street. In each building is shown a storage battery, and in one of them, which apparently indicates a factory, appear arc lamps, incandescent lamps and on the same circuit an electric motor belted to lines of counter-shafting from which extend small belts for operating machines. The whole diagrammatical illustration is entitled "Brush-Swan System of Electric Lighting, Storage and Power."

1884, Jan. 10, N. Y. Electrical Review, p. 5, announces the Cleveland Electric Motor and says of it: "These motors may be run by battery, or direct from either arc or incandescent light wires. At the Company's branch office in this city there are several sewing machines, a Sturtevant blower, and a printing press driven by these motors the electric current being furnished by a Brush arc light wire from the street circuit."

1884, Oct. 18, N. Y. Daily Graphic. Contained a number of cuts illustrating the Philadelphia Exposition. A cut entitled "Loom run by Electricity" plainly showed actuation by a Brush motor.

1884, Pamphlet of 27 pages issued by the Brush Electric Company. See pages 5, 6, 10, 17 and 19. The following are quoted: "Some of our lighting companies are now running these motors from their regular arc Light circuits, while the lights are burning, renting the power as others rent the light. * * * The Brush electric motor is now in practical use, and shows high efficiency. Its speed is sensitively governed, and it is from all points of view a thorough success. We are prepared to execute orders for these motors up to 40 HP."

1885, Feb. 28, The Electrical World, Vol. V, page 84, Article on Storage Batteries in Commercial Use" by E. P. Roberts. Re-
522 lates to details of the Brush-Swan Electric Light Company of Cheyenne, Wyoming, formed in the fall of 1882. The arc light system then commenced operation, and in a year about 30 batteries were in use. This article was evidently prepared about the opening of the year 1885 and intended to set forth the results secured and the state of public knowledge in Cheyenne as to the capabilities of the Brush system up to the close of the year 1884. It says: "There are now 95 batteries furnishing light for more than 1300 lamps distributed over an area about one mile square. * * * At the Manager's house several convenient devices are used. A light is placed outside the front peak of the house, and is controlled in the front hall. Attachments are made in two rooms for a Griscom motor run by the same current as the lamps."

By these quotations from Brush literature relating to work up to the close of 1884, it appears that the state of facts expressed by Mr. DeCamp in his deposition as existing in Philadelphia in that year also applied, in a less degree, to the Brush circuits in N. Y. City.

Edison's Central Station Inventions in Lamps and Motors.

In its issue of Monday, Sept. 16, 1878, the New York Sun reported an interview with Mr. Edison in a long article entitled "Edi-

son's Newest Marvel; Sending Cheap Light, Heat and Power by Electricity. Illuminating Gas to be Superseded. Edison solving the problem of Dividing the two Great Brilliances from an electric Machine." The article closed with the statement:—

" 'Again, the same wire that brings the light to you' Mr. Edison continued, 'will also bring Power and Heat. With the Power you can run an elevator, sewing machines, or any other contrivance that requires a motor, and by means of the Heat you can cook your food.' "

On the following day, September 17, 1878, the Sun printed 523 a letter a column in length, under the heading of "Power Flashed by Wire," from a correspondent who doubted the practicability of the work which had been done by Mr. William Wallace at its factory at Ansonia, Conn., and described in an article printed by the Sun Sept. 10, 1878, entitled "Inventions Triumph." These illustrate the general character of many articles which appeared in the popular writings as well as the technical papers of that time; some of which I have elsewhere noted.

In a preceding answer I have briefly stated the fundamental electrical proposition that the development of electricity seems to consist of a process of creating a peculiar sort of pressure or "potential" which is the capability of doing work when allowed to expend itself and that this is the costly element of the process. A convenient way of indicating the conditions which exist in an operating generator is to imagine that the pressure at the brush or terminal of lower potential is zero; and that by the complex interactions of the coils and magnets the portions of the armature winding more distant from the zero point are constantly at a higher pressure than that point, until at the brush farthest away in the electrical track a maximum potential exists, and from this brush the current which flows through the conductors, lamps, motors or other translators, constantly lose- its potential according to the resistance or opposition which it encounters, and after thus suffering an outgoing transmitting "drop" in the conductors, a working or useful drop in the translators, and a return drop in the incoming conductors,

524 it finally returns to the zero point divested of all its original potential energy.

Edison's conception of a practical domestic lighting, heating and power system of central station supply included the idea that the total electrical potential which might at any time reach the interior of buildings and thus be presented for the management of unskilled persons who might handle the switches, safety devices, sockets, lamps or motors, must not exceed the limit of personal safety, or of convenience in running wires so that they would not become dangerous. He therefore adopted the idea of making the resistance of lamps so great that a very large per cent of the total potential developed by the generators would be usefully absorbed by the lamps, and that the percentage of this costly potential which would be lost in the generators and distributing wires would be very small. With this arrangement the connection of any lamp or motor or heater with the wiring of a building would simply deliver to that

translator a degree of pressure to which it was by its construction adapted. These are some of the underlying ideas set forth in the scientific and popular literature of 1879 and later years, including his first broad patent for his comprehensive "multiple arc" or "parallel" system which was covered in several countries, the first to issue being his British patent No. 602 dated Feb. 11, 1880, the opening paragraph of which reads as follows: "Letters Patent to Thomas Alva Edison, of Menlo Park, in the State of New Jersey, United States of America, for an Invention of 'Improvements in the Utilization of Electricity for Light, Heat, and Power, being an improved System and Means for the Generation, Regulation, Measurement, and Translation of Electricity into Light, Heat or Power.'" (See electric motor and lamps in Fig. 3.) (Page 10 lines 5-24.)

In the U. S. Patent 251,538, Dec. 27, 1881, Edison taught the art how to use a well-known rotating motor (or two such motors) to regulate and rotate the carbons of an arc lamp.

In 264,667, and 264,672, both dated Sept. 19, 1882, he placed an electric motor directly in the field circuit of a dynamo and hence in multiple arc with the lamps which the patent shows and describes.

274,290, Mar. 20, 1883. (Page 1, lines 8-25.)

"In multiple-arc systems of lighting by electrical incandescence in which complete or round metallic circuits are used, it may sometimes be desired to employ electric currents of unusually high electro-motive force. It is also generally desired in such systems that the incandescing electric lamps or other translating devices should be independent of each other—that is, that such devices shall be independently controllable, so that each lamp can be lighted and extinguished separately and without affecting any others."

This basis three-wire patent is notable for the definiteness with which it sets forth instructions to the art to the effect that "multiple-arc system- of lighting" were clearly understood in 1882 to indicate systems which fed not only "electric lamps", but also "other translating devices." The simultaneous use of both lamps and motors on such a system is described and illustrated in Edison's detail three-wire patent in which he shows the connection of motors across the outside wires of the three-wire mains, so as not to interfere with the operation of the lamps connected from one of the outside wires to the middle wire. That detail patent is 283,986.

283,986, Aug. 28, 1883. (Page 1, lines 90-95.)

"B represents a building or any place in which all the lamps *c c* are under the same control. I divide all said lamps, making as nearly an equal division as possible, between the two multiple-arc circuits 7, 8, and 9 10." * * * (Page 2, lines 26-29; and * * * 36-40.)

"C represents a large electro-dynamic motor, consuming a large amount of current, and of such resistance that it may be placed directly across the multiple-arc circuit 11 12."

"Thus its removal from circuit still keeps the balance on the op-

posite sides of the system equal, and does not affect the amount of energy which traverses the compensating-conductor."

251,541, Dec. 27, 1881. (Page 1, lines 11-23.)

"In starting or stopping the motor the resistance of its circuit will be regulated in order to prevent any noticeable effect upon the electric lamps in the system, the motor and lamps being worked upon the same conductors."

251,547, Dec. 27, 1881. (Page 1, lines 11-27.)

"In a system of electrical distribution in which both lamps and motors are placed in circuits derived from the same main or consumption circuit the throwing into circuit of a motor would momentarily affect the lamps if provision were not made to avoid this consequence."

In a great number of Edison patents the phrase "translating devices" is used to indicate lamps, motors or heaters, as was well understood at that time by everybody skilled in the art; particularly from his very early patents which specify that his multiple-arc system of distribution was intended to supply all sorts of translators with electric energy and transform it into the energy of heat, light, motion or other desired form.

527 In an editorial article written at the time of issue of the U. S. "Basic Patent of Multiple Arc Distribution" (Sept. 10, 1887) the N. Y. Electrical World said, historically:

"Mr. Edison had from the start set his mind upon the general house-to-house distribution of electricity, and as he recognized the difficulties and dangers to be overcome, he provided means and safeguards therefor. The prime idea embodied in the patent is the multiple arc method of distribution by a number of generators placed in multiple arc, feeding lamps, motors, etc., also placed in multiple arc, the whole forming a complete multiple arc system in contradistinction to the "series"."

The Scientific American of October, 18, 1879, p. 242-243, printed an article of Edison's Electrical Generator, said:

"Fig. 3 shows Mr. Edison's new electric motor intended for running sewing machines, small elevators, lathes, and other light machinery, by connecting it with the same wires that furnishes the current for the electric lamps, * * *

When he shall have completed his electric lighting system we hope he will reap the reward merited by his untiring perseverance."

New York Herald, Sunday, Dec. 21, 1879. In this issue is the famous, and now historical illustrated article on "Edison's Light." Under the sub-head of "A domestic motor," the article says:—

"By constructing the machine in the form shown in figure 9 there is obtained an electric motor capable of performing light work, such as running sewing machines and pumping water. It forms part of the inventor's system and may be used either with or without the electric light." * * *

528 The New York Daily Graphic of Jan. 3, 1880, devoted its entire first page to illustration of the Menlo Park Laboratory, entitled "Edison and his electric light. Scenes at Menlo

Park on New Year's Eve." One picture is entitled "Electricity as a motor," and shows a man exhibiting a motor-driven sewing machine to ladies. Incandescent lamps were shown as lighting the room. The current for the motor was conveyed by a flexible wire from a lamp stand on a desk. Another page refers to these illustrations under the head of "Pictures of the day" and says:—

"On our front page are illustrations of what they (the visitors) saw and did there (Menlo Park), by our artist."

New York Herald, Jan. 20, 1881. An article, "Lighting Over Snow. Midwinter Wonders of Edison's Light at Menlo Park. From Jersey to Fairyland. An Electric Success— * * *

"The laboratory on the top of the hill was literally ablaze, and young Mr. Jehl, as he turned his wheel, said, 'There go 575 lights in,' or 'there go 575 lights out,' as the case might be. Up stairs a bright young man explains to you that the little machine which is whirring away there is a one-horse dynamo that turns a lathe and keeps two sewing machines running. 'Electricity is power,' says Mr. Johnson, 'as well as light. We take it off the same wire that lights that lamp. He then turns out the lamp and relights it, stops the machine and sets it running without more than a turn of the finger for each operation.' * * *

PP. 935-940, Scribner's Magazine, (New York), Feb. 1880, pp. 531-544. Illustrated article on "Edison's Electric Light," by Francis R. Upton, (Mr. Edison's mathematician). On page 542 of the article, reference is made to the use of the current for power as well as light as follows:

529 "Besides giving light, the electricity supplies a convenient form of motor for domestic purposes. * * * Fig. 14, shows the form adopted by Mr. Edison. * * * It is expected that the amount of power used in the day time will largely pay for the expenses of generating—an additional advantage over gas."

1880, Sept. 25, British Patent No. 3894; Fig. 1 shows motor near central station to work switches. Fig. 15 shows motors and lamps on same circuit. (See claims 3 and 12.

The Edison Pearl St. Central Station.

Among multitudes of articles on this subject of the starting of the first district central station by the Edison Company of New York, the following may be noted:—

New York Herald, April 21, 1881; item "Electric Illumination" containing extracts from a circular by the Company.

The London Engineer, July 2, 1881; reporting article from the New York Evening Post.

New York Market, Index and Journal:—"The Edison Light in Markets," says "Power is furnished by the Edison Illuminating Company over the same wires that furnished the light."

The opening of the Edison executive offices on 5th Avenue near 14th Street was recognized by the newspapers and the public as a very important event in the history of electric lighting. The public was first admitted on the evening of April 5th, 1881, and the daily

papers next morning printed careful articles by which the event, and the plan of the Company, were made matters of national as well as local importance.

"Truth" April 5th, 1881—"The wire which illuminates 530 a room can supply power to work anything from a sewing machine up."

New York Tribune, April 5th, 1881; "The power could be supplied at any distance from the station, and by the same machinery, since power is used for the most part during the day, when light is not wanted."

New York Herald, April 5th, 1881.

New York Daily Graphic, August 6th, 1881. A long article entitled "The Light of the future." Specifies: "Improvements in attaching and detaching lamps to and from wires, and motors for furnishing power for running small machine shops and for domestic purposes, such as sewing machines, elevators, cradle rockers, fans, appliances in butler's pantries, blowers for furnaces, ventilators, etc."

The Telegraph Journal (London) Dec. 15, 1881. page 508.

The Engineer (London) July 2, 1881, reprints account from the New York Evening Post.

New York Herald, March 23, 1881, refers to the granting of the Edison's Company's city franchise.

New York Herald April 16, 1881. Edison said, "We shall derive enough income from the electric power that we supply by day to pay all the expense attending the lighting by night." He also spoke of introducing motors from $\frac{1}{2}$ to 7 horse power each.

Motors in Smaller Central Stations.

The pioneers of Edison three-wire electrical distribution in the commercial sense, and those who managed and superintended the work of installation and operation, had in mind and advertised at the outset the use of electrical energy primarily for lighting but quite as clearly for electrical power.

The Edison Electric Illuminating Company of Brockton, 531 Mass., incorporated March 6th, 1883) was one of the earliest of these who followed the leadership of New York and no time was lost by its promoters in announcing the advent of light and power, supplied from the same generators and conductors. The following are among the publications in which such announcements appeared:

1883, Jan. 1; N. Y. Electrical Review, Page 1.

1883, April 12, Electrical Review, pp. — and 2, Refer to motors and lamps on the same wires.

1883, Feb. 7th, Brockton Daily Enterprise; report of a meeting of citizens to hear the purposes of the promoters.

1883, Feb. 7th, Brockton Daily Gazette.

1883, Feb. 10th, The Boston Commercial Bulletin, Copy of the notice of the Gazette.

1883, April 12, N. Y. Electrical Review "The subdivision of elec-

tric currents in the lighting of small spaces from a central station, and the economic transmission of power by the same subterranean conductors for the running of sewing machines, lathes, pumps, and countless other uses."

Thus in an official utterance in a meeting called for the purpose, and in at least four newspaper publications within six weeks of the time of the organization of the Brockton Company the supply of electric light and electric power from the same Edison wires was emphasized. Reference should also be made to the following:

1883, Oct. 13, *Manufacturers Gazette* of Boston.

1884, Feb. 14, *Brockton Daily Gazette*. Article "The Edison Light—Its present standing in Brockton."

1884, March, "American Textile" Reprint from the *Gazette* article.

Edison New York Station.

The Report of the Directors, submitted at the second annual meeting, December 12, 1882, contained the following:—

"Regarding the selling of power in the First District, Mr. Edison is now engaged in constructing motors of different sizes.
532 We expect a large demand for power and now that the selling of light has been successfully started, especial attention will be given to equipping the District with facilities for furnishing power."

The testimony of Mr. Axel Holm shows how a start was made in the summer of 1884.

Holburn Viaduct Plant.

The Boston Daily Advertiser of April 20, 1882, printed the following as to the Holburn Viaduct Station, as to which Mr. Hammer has testified in this case:

"Mr. Edison's London agent claims that the electric light can be given away, if need be so large so large will be the revenue from renting electricity for other purposes, such as the movement of machinery, telephones and electric bells."

Edison Heating Devices in 1882.

At the Crystal Palace Electrical Exhibition in London in 1882, at least one heat application appeared on the Edison circuit. The London Daily News of Febr. 27, had the following:

"An extremely neat electrical cigar or pipe lighting apparatus much amused the Duke of Edinburgh and his friends."

Such lighters were applied at the Brockton, Mass., Station in 1883 and 1884.

Edison-Johnson Christmas Tree in 1882.

The extent to which this illustration of the combination
533 of lamps with an electric motor on the same supply circuit was discussed and spread abroad by the American news-

papers, is indicated by the printing of an article in the Detroit (Michigan) Post and Tribune, December 31, 1882, from which I Extract the following: in which the "little hidden crank" expressed the correspondent's idea of the electric motor which operated in parallel with the lamps to revolve the tree by current from the Edison headquarters at 65-5th Ave., New York:

"It was brilliantly lighted with many colored globes about as large as an English walnut, and was turning about six times a minute on a little pine box. There were 80 lights in all * * * and all the lights and the bobbins and fantastic tree itself with its stary fruit were kept going by the light electric current brought from the main office on a filmy wire. The tree was kept revolving by a little hidden crank below the floor which was turned by the electricity. It was a superb exhibition."

Newspaper Printing at Lawrence, Massachusetts.

One of the most noteworthy of the early instances of printing by the power of electric motors is recorded in the following extracts from publications of 1884:—

"American, Aug. 1st, 1884—"Printing by Lightning." The Lawrence American press room now gets its motive power from electrical engine. About two weeks ago two new wires were stretched from the Edison Light Company's building to the American building, and a motor or electrical engine placed in the office, and for more than ten days past the entire power for running, not only the Hoe press, but for the cylinder and job presses of the entire printing establishment has been from electricity coming over a single wire from the dynamos, four blocks away. There is no delay in waiting to get up steam, no loss of time from any of the
534 ordinary uncertainty of boilers, but whenever the minute comes when the power is required, a single movement of the lever, and the wheels starts upon its swift, unchanging revolutions. Thus far it has proved altogether the most unvarying, steady and reliable power the proprietors have ever known.—(Haverhill Gazette).

American, Friday Aug. 22, 1884. "Printing by Lightning."

The first daily newspaper ever printed in this country by electrical power is the Lawrence Mass., American. The buildings in which the dynamos are in operation is seven hundred yards from the newspaper office and two wires extend from it to the motor or electrical engine in the office. A large Hoe press, on which the paper is printed, is run, and also the cylinder and job presses of a large printing establishment, the entire power for running them passing over a single wire. The little electrical machine weighs only 800 pounds, there is no delay in waiting to get up steam, no loss of time from the uncertainty of boilers. When the power is required, by a single movement of the lever the wheels are started upon its swift unchanging revolutions. The American has let its fires go out for

two weeks and says that thus far it has proved altogether the most unvarying, steady and reliable power it has ever known.

Electrical World, N. Y. Vol. LV, P. 132; October 11, 1884.—
 "Printing by Electricity. Speaking last week of printing by electricity, we mentioned that the Lawrence (Mass.) American was trying to print regularly by electricity. We are now in receipt of a letter on the subject from Mr. George S. Merrill, proprietor of that paper. He compliments us on our 'disposition to be entirely fair' in this controversy that has been forced upon us, and adds: 'I just wish to say that we are not only trying, but succeeding admirably. We commenced July 6th printing the Daily American, a 32-column paper, with power from an electric motor, and the same week, the Weekly American, a 36-column paper. From that date, for this purpose, and also to drive three other cylinder and six job presses, we have used no other power. The fires under our steam boilers have not since been lighted, but each and every daily issue since has been printed by electric power. I believe the American is the first daily newspaper to adopt electricity as a constant and permanent power in its printing.' We had no idea that the American had gone so far and succeeded so well, and it affords us much pleasure to elicit and publish the information. We do not know of any facts to invalidate Mr. Merrill's claim to priority in the respect named by him.—Electrical World."

The above was reprinted in the American, Oct. 14, 1884.

Van Depoele Motors and Lamps in Series and in Multiple.

Very early in the art, Charles J. Van Depoele realized that electric motors and electric lamps might be successfully operated on the same generating system of distribution.

In a report by Van Depoele dated March 14, 1882, and referred to in the case of Bidwell vs. Toledo No. 1111 (testimony of Sheaff page 85) he said:

"The time is near when all street and other cars will be run by electricity, and the same conductors furnishing current to the cars can also furnish current to run small motors in houses and shops and light up the place." (town).

In the Van Depoele catalogue of 1886, appears a description of the Van Depoele road the "Sherman Car," which operated for 50 days from Sept. 10, 1883, at the International Fair at Chicago, (Sheaff page 329 of the Toledo record; blue figures). This suspended car carried 25 people and connected by a double trolley with two copper wires above. The account says:—

"The generator used to generate the current to the electric motor was a compensating machine running arc lights and the motors at the same time; and the generator would adjust the current to the circuit most perfectly, whether one or more lamps were burning or cut out, or the motor was running or not."

In the record of the Winchester Avenue Railway case Mr. Sheaff again testified as to this Sherman car.

(C. R. P. 672) "Used compensating machine and put in arc

lamp in series with motor. * * * "This illustrates the electric apparatus as used in connection with the Sherman Car." See page 2607—sketch showing arc lamps and marked Sheaff Lamp Report slip Sept. 3, 1883.)

In the U. S. patent 294,165, dated Feb. 26, 1884, Van Depoele recognized the idea on which I have enlarged in describing the Brush system that the regulating mechanism of an arc lamp, is as truly an electric motor as if it were at a distance from the light-giving carbons. He also applied a regulating motor to the dynamo, as Profs. Thomason and Houston had done before him and as James J. Wood did about the same time, and for the same purpose; namely, to automatically shift the brushes to different points upon the commutator of an arc light generator, so that the electro-motive force delivered to the circuit might be increased and decreased in practical synchronism with increased and decrease of the number of lamps operated in series, and thus the current flow through the circuit might be kept practically constant, in spite of inevitable fluctuations of load on the machine.

On Jan. 3, 1883, several months prior to the operation of the Chicago Fair Sherman car as above described, Van Depoele had received a patent No. 270,352, dated Jan. 9, 1883, for connecting in multiple arc and individually regulating lamps, motors, heaters, etc. Its description and Fig. 3 of its drawings are so clear and graphic that I attach both.

"The main feature of my invention consists in its peculiar mode of tapping such currents without loss, or at least with the
537 minimum of loss, for the purpose of dividing such main current into as many smaller currents as may be desired at any point or points along the line where the main currents are flowing, so that, for instance, different currents may be obtained from such main line current for lighting or power, or for any of the other purposes where electrical currents can be utilized."

Thomson-Houston Central Station System for Lighting and Power Circuits.

Thomson, U. S. Patent 255,824, April 4, 1882. "System of Electrical Distribution."

My invention relates to the employment of one or more generators of electricity--for furnishing electrical current to operate two or more electric lamps, motors, etc., and it consists in improved methods of connecting said lamps and motors to the generators * * * in general, to so adapt the use of electrical current for lighting and motive power in the portions of a large building or of a city that the flow current through any section may be under control, as before specified, from a central switch-board or its equivalents."

Refers several times to "light or power circuits." Contains claims "on an electric light and power system * * *"

To the reader of 1882 the language above quoted clearly described one or more central station generators, each supplying a circuit or a section of a circuit on which both lamps and motors were connected.

538 *Hochhausen Central Station Mechanism for Lighting and Power Circuits.*

Hochhausen, U. S. Patent 295,552, March 25, 1884, "Apparatus for Regulating and Distributing Currents from Dynamo-electric Machines."

"My invention relates to the method of regulating and distributing the currents from dynamo-electric machines. Its object is, in the first place, to provide a means for automatically changing the electro-motive force of the current upon the exterior or working circuit to suit the changed resistance consequent upon the cutting out or in of an electric lamp, motor, or other translating devices."

To the reader of 1884 the above terms described a circuit on which both lamps and motors were connected.

Farmer's Storage Battery Plan for Lamps and Motors on the Same Circuit, or for Either Alone.

Farmer, #285,602, Sept. 25, 1883, "System of Electric Lighting."

"My invention comprises a system of electrical generation and distribution involving the use of secondary batteries, by means of which electric energy may be economically produced, stored, and utilized for the production of light, power, or other analogous and useful purposes." This system, as described, is especially applicable to incandescent lighting; the equally applicable to other purposes.

To the 1883 reader the above-quoted description sets forth either a system of lamps, a system of motors, or a system combining both; or other translators, as for example, heaters.

Daft Electric Light Company's Combined Light and Railway Central Station.

Under the title of "Electric Motors on the Track" the New York Electrical Review published April 5, 1883, page 3, an account of how Mr. Daft arranged his first electric railway motor:—

"The motor in question is one which Leo Daft, the electrician of the Daft Electric Company, has been experimenting with for the last eight months." * * * "Already Mr. Daft's little electric railroad has been visited by well-known railroad officers and men, who have expressed themselves as much pleased with the working of the motor. Among the railroads whose representatives have ridden on the road are the Pennsylvania, New Jersey Central, Erie, and many Western roads." * * * "Other motors, adapted especially for a high rate of speed, spun around the track with a load of seven persons so fast as almost to take the breath away from those aboard and sent their hats flying to the rear." * * * "For his electric light works, Mr. Daft gets his power from a 50-

horse power steam engine, which also runs the dynamos furnishing the current for the electric motors."

The above quotation describes a central station in which one engine runs a lighting dynamo and also a railway circuit dynamo. In the literature of 1883, this was an illustration of the broad idea of light and power taken from the same distributing plant.

Early Fire Insurance Recognition of Central Supply Plant for Lighting and Motive Power.

540 Those watchful guardians of the public safety, the Fire Insurance Underwriters, were among the first outside the electrical pioneers to appreciate the advantages of taking current from the same supply wires for securing at pleasure electric light, electric power or other manifestations. One of the highest insurance authorities of that period from 1880 to 1885, Mr. Edward Atkinson, as President of the Boston Manufacturers' Mutual Fire Insurance Company, issued early in 1882 a series of reports. One of these, entitled "Electric Lighting No. 3," was dated "Boston, March 6, 1882," and contained the following practical and instructive utterances which were sent out as descriptive of the electric plants of that period adapted to yield light or power at the will of the user: such plants as the European scientists, Edison and other pioneers had then been describing for several years, and Edison had furnished as isolated installations since the first part of the year 1880; also in the central station at the Holborn Viaduct as described by Mr. Hammer; and was then preparing to furnish in New York (my own italics):

"In view of the *apparent novelty in the application of electricity now made or contemplated*, and the indefinite sense of danger which pervade the community regarding its use, it may be as well for us to assume that most of our members are now, or were lately, in the same condition of mind as ourselves; to-wit; suddenly called upon to investigate a subject of which they knew little, described in a technical language of which they knew nothing. We use the expression 'apparent novelty' for this reason—the *application of this source of energy, named electricity, to the transmission of power is in fact no novelty whatever*; all that has happened in these latter days has been what many persons, who have not examined the subject, are still supposing to be in the somewhat distant

541 future, to-wit, *bringing this force into the domain of applied science so economically as to be commercially useful.*"

Other Publications of Central Station Distributing Plans.

The Operator and Electrical World, Vol. 14, March 24, 1883, published a lecture by Prof. Ayrton before the London Institute, on "Electric Lighting and Locomotion." The lecture is full of the use of lamps and motors, both in multiple and series, fed from the same supply wires, and contains a number of illustrations of such arrangements. The lecturer takes occasion to exploit the Ayrton

and Perry system of power transmission, and their constant potential current generators, in all cases showing lamps and motors in circuit.

One system illustrated consists of sets of storage batteries in series with the Source, and distributing conductors from each set to which incandescent and arc lamps and motors are connected in multiple. A good statement and lecture illustration of the operation of a lamp, a fan motor, and an electric heater from the same supply wire is found in the third paragraph in the first column on page 177, as follows:—

"* * * I turn on this electric tap, and at once this fan commences to revolve rapidly and send forth a rush of wind. That, perhaps you will say, could as well be done by a belt driven by a steam-engine; but I turn on another tap in the same supply wire, and at once the fan is lighted up by this electric lamp. That could not have been done merely by a steam-engine. Again, a third tap; this electric fire burns, and the water starts boiling in this glue-pot (Experiment shown). This thin flexible wire then furnishes a supply of electric power which can, at will be used for producing motive-power, light or heat." (See also Figs. 4 to 9 p. 178; Fig. 5, p. 194.)

Gravier, of Paris, U. S. Patent 300,068, June 10, 1884, "Apparatus for Distributing Electricity."

"This invention relates to an improved system for supplying a number of translating devices—such as lights, motors, and the like—with electrical energy from a common generator or generators. * * * and preferably by dynamo-electric machines."

The Franklin Institute Electrical Exhibition of September, 1884, and Its Educational Features.

Up to about August 1, 1884, the several pioneer competing electric lighting companies of the United States had operated in great measure independently in their efforts to proclaim to those most skilled in the new illuminating art and also to the public, (each company for itself and in its own way,) that while electric lighting offered wonderful conveniences and prospective economy or profit, electric lighting when reinforced by electric power, heat or chemical action, would prove still more attractive and in all sorts of respects advantageous.

In the invitation to all countries to participate in the general advertising display afforded by the International Electrical Exhibition the Franklin Institute from Sept. 2nd to Oct. 14th, 1884, marshalled all these rapidly growing interests, both American and Foreign, as they had not been brought together before in this country, under well-defined conditions; and offered to them every incentive to competitive effort to secure from the jurors the highest

possible awards in the form of honorable mention; to sell
 543 apparatus; and to establish local companies for central station light, heat and power production. Hence it is well to group under the above single heading brief statements of the forms of apparatus which were displayed by the several foreign and domestic competitors; and of the numbers of working lamps and motors which they severally offered to the trade and visitors to the show, for commercial investment and as a matter of public education.

In addition to these attractions, a special act of Congress empowered the President of the United States to appoint a scientific commission to conduct a national conference of electricians, to encourage "the progress of electrical science in this country." The announcement of this international conference brought to Exhibition a large number of eminent scientific men; as the Public Ledger of Philadelphia expressed it, "a world's congress of the men of science who speak in our own tongue."

The records of the exhibits of electric motors, some of them simply displayed for the observation of visitors and other- shown more graphically in action, may probably be considered in connection with the formal advertisements by which the different companies placed upon record their several plans and guarantees. These may best be summarized from "The Official Catalogue of the National Exhibition, Philadelphia, Commencing Sept. 2, 1884," copyrighted in that year and published by authority of the Committee on Exhibitions for use during the continuance of the Exhibition. The facts of interest in this connection may be grouped under three

heads, each group including the names of all the manu-
 544 facturers or exhibitors of the motor apparatus specified. It is particularly noteworthy that in the group "Operating Motor Exhibits," a large number are described as being connected on the same circuit with electric lamps or alluded to in such terms that such operation is plainly implied. The visitors who saw a large proportion of all the motors thus operating, must be presumed to have realized in view of all the publicity given in this combined operation for several years prior to the date of this exhibition, indicated to any intelligent person that in those instances where such attachment of both motors and lamps to a single source of electrical energy was not specifically mentioned in the catalogue, the adaptability of such motors to such operation would not be questioned. The classification is as follows:

(a) Official Catalogue Electrical Advertisements.—What the Companies were apparently announcing as to their several abilities.

(1) Brooklyn Electric Construction Company.—Dynamos, arc lamps, incandescent lamps, current regulators, electric motors. Page LXV.

(2) Brush Electric Company.—Electric Lighting storage batteries, carbons, electro-plating machines, electric motors.

"We have commenced the manufacture of the Brush Electric Motors and shall soon be prepared to fill orders for all sizes, from one up to forty horse power. In many locations these are the most

economical producers of power, and will be largely used by lighting companies and others where small powers are required. We desire to call attention to our exhibit at the Electrical Exhibition, which includes dynamo machines running arc lights of 2000 to 1200 candles; incandescent machines running Swan incandescent lamps; storage batteries running Swan incandescent lamps; electric motors operated by transmitted power; electro-plating machines driven by electric motors; mill machinery driven by our motors and lighted by our incandescent lights." Page XXX.

545 (3) Daft Electric Light Company. "Complete system of transmission of power.—Dynamos and Motors of all sizes—from $\frac{1}{4}$ H. P. and upwards to any capacity." Page LXVIII.

(4) Edison Machine Company.—"Manufacturers and contractors for arc and incandescent systems of electric lighting. Estimates furnished for transmitting from 25 to 2,000 horse power over distances of from 1 to 25 miles." Page I.

(5) Electrical Specialty Company.—"Manufacturers of Specialties under the Edgerton patents. Dynamo Machines for combined Arc and Incandescent lighting * * * and Electric Motors for furnishing small powers." Page LXVI.

(6) Electro Dynamic Company.—"Electric fans, Electric Sewing Machines. Motors, Batteries, Dynamos, Accumulators of all sizes." Page L2.

(7) Griscom, W. W.—"Electric Lighting Installations. Electric Motor Plants." Page L2.

(8) Richter Electric Light Company.—"The sole manufacturers under the patents granted to Mr. Charles Richter for Electric Lighting; Electric motors and Electro-plating machines." Page LXVL2.

(9) Sprague Dynamo-Electric Motors.—"For use on constant potential and constant current circuits. * * * Constant potential motors are specially designed for 90 to 110 and 180 to 220 volt circuits, as on the Edison two and three wire systems. * * * Constant current motors designed for 10 to 12 ampere circuits." Page LX2.

(10) Stanley Incandescent System.—Dynamo machines, incandescent lamps, speed regulators, electric motors. * * *

"Electric motors are of the most important design and maintain a constant speed during any variations in the load up to their maximum capacity, and are especially useful for attachment to arc light circuits during the day-time, for all purposes where a small amount of power is required." Page 9 of Folder.

(11) Thomson-Houston System.—Dynamo machines, arc lamps incandescent lamps, electric motors, etc. Lilliputian working plant showing system complete. (Note that — this exhibit the whole system is described as being in operation.) Page VIII2.

(12) The United States Electric Lighting Company.—Manufacturers of the most approved forms of apparatus for electric lighting, electric deposition, and electrical mensuration of power. The Weston arc system and the Weston incandescent system are superior to all other systems of electric lighting. Page LXX.

(13) Van Depoele Electric Light Company.—Manufacturer dynamo electric machines, electro-plating apparatus, electric lamps. Page XXXI.

(b) Official Catalogue Description of Motors shown but not described as in operation.

(1) Acme Electric and Illuminating Company.—Dynamos, arc lamps, incandescent lamps, one 3-H. P. motor, one sewing machine motor. Page 15.

(2) Edison, Thos. A.—Dynamos, incandescent lamps, electric meters, electric fan motors, electro-motors. Pages 26, 90.

(3) Electrical Specialty Company.—Dynamo machines for combining arc and incandescent lighting. An electric motor for furnishing small power. Pages 27, 89.

(4) Electrical Supply Company (Ayrton and Perry motors). Pages 28, 90.

(6) Griscom. (S. S. White).—One double induction motor, one fan motor. Pages 62, 90.

(7) McTighe Electric Light Company. (W. G. Moore).—Electric motor which will run four sewing machines or four fans. Pages 34, 90.

(8) Nystrom, J. W.—Electro-magnetic machine, either a generator or a motor. Page 35.

(9) Patent Office of the United States.—Historic exhibits electric motor models. Pages 67, 68, 90.

(10) Queen and Company.—Three Deprez motors; one Fein motor; one model Western. Pages 39, 45, 56.

(11) Sprague, Frank J.—Seven varieties of motors for constant potential, constant current and railway circuits. Pages 59, 90.

(12) Thomson-Houston Electric Company.—One motor dynamo, one small motor. Pages 63, 90.

(13) Union Switch and Signal Company.—Electric motors and switch. Pages 64, 90.

(14) Van Depoele Electric Light Company.—Dynamos, arc lamps, seven motor- from 10 H. P. to 1/100 H. P.; also 36 sewing machine motors. Pages 69, 70, 89, and 90.

(15) Wallace and Sons.—Magneto-Electric Telemachon, Pages 70, 90.

(c) Official Catalogue Description of Operating Exhibits.

(1) Bidwell, Benson.—Railway motor and lamps. "The Bidwell Electric Railway Company of Philadelphia have an exhibit of a car propelled and lighted by electricity. Also, by attaching electric light wires to the conductors anywhere along the railway track we can light both arc and incandescent lamps. The same current doing all; the system will do for either surface or elevated
547 railroads. This claims to avoid noise and smoke, and to be a perfectly safe railway system. The conductors can be covered, and thereby avoid danger from accidental contacts. By using the current for power and lighting purposes, electric lights can be furnished at less cost to towers and buildings along the roads." Also Page 9 of folder showing ground floor plans.

(2) Brush Electric Company.—Dynamos, arc lamps, storage bat-

teries, electro-plating and three electric motors. "As exemplified in the Exhibition, the two batteries are charged upon the same circuit in which are running motors and arc lamps." * * * "Three of these (motors) are exhibited in operation: one in the company's enclosed rooms, running two looms; one in the miscellaneous exhibit, driving a plating machine; and one driving a fan for ventilating the general offices of the exhibition. These motors are made up to a size developing over 40 H. P. actual" * * * "One 30-inch Wing Disc-Fan on exhauster (Simons Manufacturing Co.) driven by a Brush Electric Motor." Pages 19, 20, 57, 90.

(3) Cleveland Electric Motor Company.—Motors operating five sewing machines, two button-hole machines, one ruling machine, one McKay Machine, one organ. Pages 21, 72, 90.

(4) Daft Electric Company.—"The exhibit consists of a Cottrell 31x46 printing press, upon which the paper will be printed weekly during the continuance of the Exhibition."

This press is run by a 2 H. P. Daft Electric Motor, the power being received from a Daft Dynamo, located on the Foster Street side of the building.

This is the first time any journal has been regularly printed from issue to issue by electricity. "Motor actuating a press printing the Electrical World of New York City. Pages 28, 90.

(5) Dowdell, A. W.—Motors actuating fancy wood turning apparatus. Pages 25, 90.

(6) Edison Exhibit of the Combined Edison Companies.—Dynamos, incandescent lamps, underground tubing, 3-wire distributing system, central station regulators, and pressure indicators. "The Edison Electric Meter which records the amount of electricity used by each consumer, whether for light motive power, or other purposes, is also shown in operation. From the switchboard the current is distributed to illuminate all the various departments of the Edison Companies' Exhibits, including a furnished parlor, to show the æsthetic lighting of interiors, looms for weaving driven by an electric motor working upon the same circuit with the lamps used to illuminate it."

In addition to the motor driving a loom, two Edison actuated the blowing apparatus of pipe organs, (H. C. Rossvelt) being connected to feeders from the same circuit as the lamp system. Pages 56, 61, 90;

(7) Electro-Dynamo Company.—Several induction motors, driving sewing machines, lathes, organs, etc., with battery or dynamo current. Pages 28, 90.

(8) Haines, Wm.—Manufacture of gold and silver thimbles by electro-motive power. Pages 30, 90.

(9) Singer Sewing Machine Company.—One dynamo, four arc lamps, six incandescent lamps and six motors running the same number of sewing machines all on the same circuit. Pages 57, 90.

(10) Van Depoele Electric Light Company.—One motor driving two Simons 24-inch ventilating fans. Pages 57, 89, 90.

(11) Weston, Edward—Two motors. "Cataract with Andrews' rotary pump, made by Edwards & Co., New York, and driven by

Weston Motor, lifting about 600 gallons of water per minute, eight feet." Pages 55, 58, 72, 65, 90.

Technical periodical literature relating to operating motor exhibits and related matters at Philadelphia.

(1) Scientific American. Vol. 51, pp. 239 and 246, Oct. 18, 1884.

An illustrated article on "The Edison Exhibit at the Philadelphia Electrical Exhibition." Cut marked "6" appears to show looms of some sort, with what appears to be a motor nearby, and the suggestion conveyed is that they may have been motor driven.

(2) On pages 271 and 277, Nov. 1, 1884, an illustrated description of the Brush-Swan system. Cut "3" on page 271 shows a Brush motor driving a loom. This is referred to on page 277:

"For the purpose of practically illustrating their system of domestic lighting, a parlor, bedroom, and an additional chamber were exhibited by the Brush Company, the two first being "lighted by the Brush-Swan incandescent lamps, fed by a secondary battery, and the third containing two looms driven by a Brush motor. This motor was fed by the current taken from the battery by the same wire that supplied the lamps."

(3) The Operator and Electrical World printed an advertisement during the Exposition, commencing Sept. 13, 1884, headed "The Daft Electric Motor" referring especially to the printing of the World by such a motor.

549 (4) The same issue of the same serial contained an advertisement of the Van Depoele Co. motors, saying that the system can be seen at the Exposition.

(5) Electrical World, Vol. LV, p. 97, Sept. 20, 1884. "Printed by Electricity."

An illustrated article describing the printing of the Electrical World at the Philadelphia Exposition upon a Cottrell press, which was driven by a Daft 1½ H. P. motor. The current was furnished by a Daft dynamo, one hundred feet away, driven by a Straight Line engine "on the main floor below."

There is a cut of the motor, showing its worm-gear connection with a pulley, which was belt-connected with the press. The press is shown in separate cut.

(6) Electrical World. Vol. LV, p. 105, Sept. 27, 1884. Description of the Weston exhibit at the International Electrical Exposition, Philadelphia, and illustration of the Weston booth. Shows a waterfall, and says the water was pumped up by an Andrews centrifugal pump run by a Weston dynamo used as a motor. Also speaks of the lighting of the water-fall by incandescent lamps.

(7) Scientific American. On pages 287-8, Nov. 8, 1884, is an illustrated description of the Weston exhibit.

Refers to his waterfall, but no mention of the supply pump and driving motor. Says: "The electric motor, as designed by Weston for use in the shop, was exhibited both at rest and in motion. For the latter exhibit the interior of a shop was shown, the tools being operated by the Weston motors which ran rapidly, smoothly and noiselessly."

Prior to the opening and during the continuance of this "first exhibition held in America devoted entirely to electrical matters," its Committee on Exhibitions published a semi-monthly "Bulletin", commencing June 2, 1884, and continuing to October 15th of that year when its number 10 appeared, recording on page 62 the close of the Exhibition on the evening of October 11th.

(A) On page V of advertisements (a portion of the issue of No. 2) began a notice of the U. S. Electric Lighting Company, announcing Complete Systems of Arc and Incandescent Lighting and Electrical Transmission of Power"; a broad combination of what had then become the leading features of "a general electric lighting business."

This notice was repeated in each of the remaining eight 550 issues of the Bulletin.

(B) The presence of electric light and power combinations was recognized in the "Rules for the Installation of Electric Apparatus", adopted by the Committee on Electrical Installation, and published in the Bulletin No. 5, August 1, 1884 p. 32. The following indicate the restrictions thus imposed:

"7. When circuits are taken from large to small conductors * * * an approved automatic device must be introduced into the circuit of the smaller conductor * * *. Similar automatic devices must be used in all circuits run in the vicinity of electric light and power circuits."

"8. All electric light and power circuits must be tested as often as the committee may direct" &c.

(C) The Franklin Institute offered (Bulletin September 15, p. 47) 80 prizes to the pupils in the Philadelphia Public Schools for the best essay on "What I saw at the Electrical Exhibition." To these the Electrical World added a prize for the best paper and another, for the second best.

(D) Prof. E. J. Houston wrote during the Exhibition a series of 25 Primers of Electricity which were printed by the Franklin Institute and 70,000 copies were sold. No. 15 of the series was devoted to "Electric motors."—Bulletin of Oct. 15, p. 57.

(E) In commenting upon the close of the Exhibition the Philadelphia Evening Telegraph of Oct. 11, (quoted in the Bulletin, Oct. 15, p. 58) summed up as follows:—

"The Exhibition is the crown of the Franklin Institute's honorable career. Many things has that powerful organization done to make its name stand lastingly on the history of American progress, but nothing comparable to this."

The closing article of this Bulletin stated the total number of visitors during the five weeks to have been 300,000; average number for the 35 days, 8,079; public school admissions, 13,092; and in addition 62 visiting schools and colleges from other cities.

551 The receipts for admission amounted to \$100,000. The article spoke of the educational value of the Exhibition, in the following language:—

"With its close the public have been the last of an Exhibition which, in respect to its educational and scientific features, its completeness and value as a means of advancing the arts to which it related, will be memorable for many years in the history of Ameri-

can exhibitions. The rapid progress of electrical science during the past ten years has awakened the interest of all intelligent people * * * The exhibition attracted the personal attention of the most distinguished men of science of the United States, and of many of the leading British and Canadian scientists."

Thus the exhibition of the large number of electrical lamps and motors which were seen not only as portions of the system to which they belong, but as operating devices, in some cases on the circuits, proved very effective in the education of the hundreds of thousands who attended, and spread far and wide to many who had no previous knowledge of them, many of the fundamental principles of the electric lighting business which was growing with constantly increasing rapidity.

A number of the sections of the Board of Examiners made reports which were printed and broadly circulated. The General Report of the Chairman of the Committee was signed in March 1885, and printed as a supplement to the Franklin Institute Journal (quarterly) for July 1885. It contained the following statements:—

(Pages 8 and 9) "The circulation of the Bulletin amounted to over 2000 copies for each edition, and these were distributed free to college-, libraries and scientists in various localities throughout the United States and Canada. The paper became very popular and copies were sought after by persons from all sections.

In addition to the publicity given to the Exhibition by means of the distribution of official printed matter, a comprehensive scheme for advertising was devised by the Committee on Correspondence and a Publication. * * * Printed circulars and programs were mailed to large numbers of newspapers and private schools, and also placed in prominent hotels at summer resorts. * * * There was also a large amount of advertising done in many prominent daily papers and scientific journals. * * * In this connection it is proper to acknowledge the invaluable assistance that was rendered by all the daily newspapers of our cities, and scientific journals of this and other cities, especially the 'New York Electrical World'; the 'Electrical Review'; 'The Electrician'; and the 'Scientific American' in frequent gratuitous notices of the progress and development of the Exhibition. The 'Philadelphia Record', devoted a large part of two editions to the exposition. * * *

(Pages 13 and 16) "The Committee determined to awaken especial interest in the colleges and schools of the country, for the purpose of inducing a large attendance of scholars as visitors. Now was this motive entirely mercenary, for it became evident early in the preparation, that the educational facilities would be unsurpassed and ought not to be neglected. With this view, Mr. G. Margan Eldridge, Chairman of Sub-Committee on Schools throughout the country, announcing the character and peculiar attractions of the Exposition, the arrangements made for transportation, and the reduced price of admission for schools visited in a body. In response to a proposition made to the Board of Education of Philadelphia, the public schools of the city of the grade of high normal, grammar, and under classified, were granted each one day of vacation during

the school term to attend the display. As the result of these arrangements the official record of admission shows an attendance, as organizations, of 97 schools, with 740 teachers, and 16,657 students.

* * * To facilitate the work of teachers in making the visits profitable to their pupils, arrangements were effected with professional men, familiar with electrical matters, to act as guide- in explaining the uses of the machines, and the theories of electricity to the young visitors and without cost to them * * * Especial inducement for study and observation of exhibits was offered the scholars of the public schools in the offer of prizes, consisting of a five dollar gold piece, and an honorable certificate of the Franklin Institute for the

best composition upon the subject, 'What I saw at the Electrical Exhibition.' The number of prizes distributed

amounted to eighty, of which sixteen were secured by the High and Normal schools, and the remainder by the Grammar and Unclassified schools. In addition to these awards, two special prizes of ten and fifteen dollars added by the 'Electrical World', of New York. These were distributed with appropriate ceremonies, before a large audience assembled at the Normal School building, Thanksgiving night, Nov. 27, 1884."

(Page 14) "To add still further to the educational attractions, arrangements were made for an excellent course of lectures, under the care of a committee appointed for the purpose. The report of the Chairman is annexed and will be found of interest, as illustrative of the high character of the lectures in their various specialties. For the public schools, a special course upon electrical subjects was delivered by Prof. Houston."

(Page 16) "To enable visitors to properly understand the names and uses of the machines and instruments on exhibition, a large number of placards and descriptive signs were placed about the building and attached to exhibits, giving in popular phrases their names and a brief description. In addition to this information a series of elementary papers called "Primers of Electricity", were written by Prof. E. J. Houston. These were printed on four and eight pages, illustrated, and were sold at a nominal price. Over eighty thousand were disposed of, and they became very popular and useful to visitors and young students."

These quotations from the leading official report indicate comprehensively as well as authoritatively the extraordinary efforts which were made to distribute as widely as possible intelligent ideas regarding the various systems of electrical distribution which were shown at Philadelphia in practical operation for several weeks in 1884. No such systematic and generally successful effort had been previously made, and none was subsequently required on account of the general dissemination of practical ideas which resulted from this campaign of instruction by so great an educational engine as the Franklin Institute. Multitudes of business men as well

554 as the younger students were thus shown how to treat intelligently the rapidly developing series of applications made about that time by promoters for electric light and power plants throughout the country; and as a result there came about a general

recognition of the reality and commercial value of those ideas regarding the production of electricity at great generating centers, its transmission over considerable areas by either series or multiple are distributing conductors, and its sale to individual consumers who desired either light, heat, motion or chemical action represented by various quantities of the same current energy; to each according to his necessity and without regard to the use to which this energy, suitably transformed after measurement, was to be applied in doing practical work.

Thus it appears that the broad statements of Mr. Edison, Mr. Hammer and Mr. De Camp, as to the general knowledge in 1884 of the utility of electric lamps and electric motors when connected to the same distributing conductors bringing current from the same central station or source of electricity, are not only based upon their recollection of the state of the art prior to 1885, but are amply confirmed and supported by the scientific and commercial literature of that period.

This literature, as I have quoted and referred to it, shows that before the opening of 1885 intelligent people generally throughout the civilized world knew that an electric light station was
555 a factory, so to speak, where electrical energy was either produced from local sources of power or was received in some form from another point, and relayed or otherwise sent out over distributing wires to many users or consumers, for whom all operations requiring special skill, caution and knowledge of the art were performed by trained people; so that these users, while free to turn the current on, to modify it or turn it off and thus to start, to regulate or to stop the action of any translator of electrical energy into energy of some useful form, such as light, heat, motion or chemical action, were relieved of technical responsibility and were supplied with the single commodity electricity; either at a fixed price per unit of time or by meter, as gas and water had been supplied previously.

In that sense central station companies did not sell light, or heat, or power; but rather sold energy which they delivered at the door, to be applied to one or all of several useful purposes to be selected as the purchaser might choose.

For years before the opening of 1885 the serial technical journals, the publications of the patent offices, the scientific textbooks and special reports, the popular monthly and weekly magazines and the daily papers had printed and circulated masses of information to the public as to the utterances of eminent scientific experimenters, teachers and writers regarding the coming of a new era in applied electrical science; marked by previously unimagined utility, convenience and economy. These diffusers of knowledge had first told broadly
556 how such advances could be made; afterward, how they had actually been accomplished by various inventors and engineers. They had encouraged the investment of capital, and indicated under what restrictions in the public interest, that investment should be allowed.

One of the foundation stones of their predictions, proclamations of intentions, and records of accomplished facts had been the long

recognized basic condition that the electricity which man could generate most cheaply by the expenditure of power, and which could be practically controlled for public or private use, could be conducted by wires to devices among which it would divide itself automatically under the operations of well-known laws, and because of peculiar individual construction would produce in each device a characteristic result; all without mutual interference and subject to individual control by the unskilled user.

The devices which the public first expected and demanded were lamps; those that were next called for and generally utilized were motors. In later years heaters have come into popular appreciation and growing use. But the public has never had cause to imagine at any time since the first noteworthy interest was aroused in central station electricity, nearly 40 years ago, that more than one set of supply conductors would ever be required to bring to their factories, offices and dwellings every useful result that electricity could furnish.

557 I, Wm. S. Heller, a Notary Public, within and for the county of Douglas, state of Nebraska, and an examiner of said court, do hereby certify that Charles D. Woodworth, Ed Leeder and Thomas H. Dailey were by me first severally duly sworn to testify the truth the whole truth and nothing but the truth, and that the signatures of said witnesses to their said depositions were by the parties hereto expressly waived; that said depositions were reduced to writing by myself at the time and place in the annexed stipulation specified; that I am not counsel attorney or relative of either party, or otherwise interested in the event of this suit, and that said exhibits hereto attached are true copies of the original exhibits offered by either party hereto.

WM. S. HELLER, [SEAL.]
Notary Public and Examiner.

My Fees: 37.80.

35.70 taxed to Respondents.

2.10 " " Complainant.

This does not include Jenks' Testimony at end of Depositions.
Paid. WM. S. HELLER.

Endorsed: Filed July 12, 1912. R. C. Hoyt, Clerk.

558 *Index to Volume No. 2.*

	Page.
Deposition of William J. Hammer.....	231
" " Axel Holme	267
" " A. J. De Camp	291
" " Thomas A. Edison	300
" " Arthur Perry	310
" " W. E. McGregor	323
Exhibit No. 1	328
" "A"	338
Deposition of Charles D. Woodworth	372

560½ Volume No. 3 of Transcript in the Case of Old Colony Trust Company v. the City of Omaha, No. 130 "Z", as Referred to in Certificate of Clerk Shown on Page 229 of Volume No. 1. Certificate of Clerk as to This Volume Shown on Page 862 Hereof.

561 Thereupon afterwards, to-wit: On the 12th day of July, 1912, Testimony and Depositions taken before H. E. Kelley Examiner, were filed in said case, which said Testimony and Depositions are in words and figures following, to-wit:—

562

Index.

Complainant's Witnesses.

	Direct.	Cross.
Joseph McGuire	3-11	7
Henry A. Holdrege	137	149
Minor R. Huntington	155	157
Arthur C. Smith.....	159	163
Thos. C. Byrne.....	165	...
Clyde L. Babcock.....	170	173
Louis Kirschbraum	174-179	178
Frank B. Johnson.....	180	183

Exhibits.

Exhibit 1, Cert. Articles of Incorp. Old Colony Trust Co.....	235
Exhibit 2, Cert. Art. of Incorp. Thomson-Houston Electric Light Co.	227
Exhibit 3, Copy of Cert. of Incorp. of Omaha Electric Light & Power Co.	13
Exhibit 4, Bill of Sale of Personal Property, etc., of New Thomson-Houston Elec. Light Co. to Omaha Electric Light & Power Co.	19
Exhibit 5, Assignment of franchise, and other rights, of New Thomson-Houston Electric Light Co.....	21
Exhibit 6, Deed of Real Estate executed by New Thompson-Houston Electric Light Co. to Omaha Electric Light & Power Co.	26
Mortgages executed by Omaha Electric Light & Power Co. to Old Colony Trust Co. (Printed Exhibits L, N, O & P to Bill of Complaint)	
Exhibit 7, Opinion of Sup. Ct. of Neb. in case of J. C. Sharp et al. vs. City of So. Omaha.....	33
Exhibit 8, Opinion of Sup. Ct. of Neb. in case of Neb. Tel. Co. vs. City of Fremont	41
563 Exhibit 9, Copy of brief of appellants in case of State of Neb. vs. City of Fremont.....	51
Exhibit 10, copy of brief in case of Neb. Tel. Co. v. City of Fremont	58
Exhibit 11, Opinion of Sup. Ct. of Neb. in case of City of Platts-mouth v. Neb. Tel. Co.....	60

Exhibit 12, portion of brief in case of City of Plattsmouth v. Neb. Tel. Co.	71
Exhibit 13, portion of brief on behalf of appellee in above case.	72
Exhibit 14, Opinion of Sup. Ct. of Neb. in case of State ex rel. James L. Caldwell v. Lincoln Street Ry. Co.	95
Exhibit 15, Opinion of Sup. Ct. of Neb. in case of State, ex rel. James L. Caldwell v. Citizens Street Ry. Co.	122
Exhibit 16, Article from Omaha Daily Bee of Sept. 5, 1884.	131
Exhibit 17, copy of article from Omaha Daily Bee dated Sept. 12, 1884.	132
Exhibit 18, copy of article from Omaha Daily Bee, dated Sept. 15, 1884.	133
Exhibit 19, copy of editorial from Omaha Daily Herald, dated Dec. 25, 1879.	134
Exhibit 20, copy of editorial from Omaha Daily Herald, dated Dec. 27, 1879.	135
Exhibit 21, List of Power Users of Omaha Electric Light & Power Co. as of May 1, 1908.	213

564 UNITED STATES OF AMERICA:

District Court of the United States within and for the District of Nebraska, Omaha Division.

OLD COLONY TRUST COMPANY, Complainant,
vs.
THE CITY OF OMAHA, Respondent.

Appearances:

William D. McHugh, Esq., for the Complainant.
William C. Lambert, Esq., for the Respondent.

Stipulation.

It is hereby stipulated and agreed by and between the parties in the above entitled cause that the evidence may be taken in said cause on the part of the complainant, to be used in the trial of said cause, the evidence to be taken at 413 First National Bank Building, Omaha, Nebraska, on Friday, June 7th, 1912, and Saturday, June 8th, 1912, commencing Friday, June 7th, 1912 at 10 o'clock A. M., before H. E. Kelley, Notary Public, in all respects as though the said H. E. Kelley were an Examiner of said Court, all notice of the time and place of the taking of said depositions being hereby waived, and it being agreed that the said H. E. Kelley shall take the depositions and testimony, and certify to the same, and deposit the same with the Clerk of said Court in all respects as if he were an Examiner of said Court, all objections as to the form and style of the caption and the certificate, and transmission of the said testimony being hereby waived, and the signatures of the witnesses to their respective depositions is hereby expressly waived, the Respondent waiving all objections to the form of the

questions asked, except as specifically made at the time of the taking of the depositions.

W. D. McHUGH,
Solicitor for Complainant.
W. C. LAMBERT,
Solicitor for Respondent.

566 JOSEPH MCGUIRE, a witness, being called on behalf of Complainant, after being duly sworn, was examined in chief by Mr. McHugh, and testified as follows:

Mr. McHUGH:

Q. Where do you reside, Mr. McGuire?

A. Benson, Nebraska.

Mr. LAMBERT: The Respondent, objects to any testimony in this cause, for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the Respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals for the 8th Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second. Because at the time the said cause was pending in the Circuit Court of the United States for the Nebraska District, and also in the 8th Judicial Circuit Court of Appeals, complainant in the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

Q. Benson is a city in Douglas County Nebraska, which adjoins the City of Omaha, is it not?

567 A. They are separated by about five blocks from the City of Omaha.

Q. But the city limits of Benson and the city limits of Omaha are about five blocks apart?

A. I think they are; 48th to 51st, I think it is; 52nd—something like that—a vacancy in there.

Q. Does the City of Benson own and operate a water plant?

A. Yes sir.

Q. What official position have you held in the city of Benson?

A. Mayor.

Q. What is the fact as to whether the city of Benson operates its own water plant as a municipal water plant?

A. We do.

Q. What is the source of supply of the water?

A. Where does the water supply come from?

Q. Yes?

A. Deep well.

Q. And the water is pumped from the well throughout the city?

A. Pumped to a standpipe and distributed throughout the city.

Q. What power is used by the city of Benson in the operation of its pump and its municipal water plant?

A. Electricity.

Q. How is the electric power or energy supplied to the city of Benson?

A. By the Omaha Electric Light & Power Company.

Q. And where is that electric energy so furnished and supplied to the city of Benson generated?

A. In Omaha, at the plant.

Q. And transmitted from the generating plant in the city
568 of Omaha by means of wires and distributing systems to the city of Benson?

A. Yes sir.

Q. How long has the city of Benson utilized electric power as the motive power for the operation of its machinery for its municipal water plant?

A. Between five and six years, I think; about five or six years.

Q. And has the city of Benson ever utilized any other power except electric power for the operation of its machinery in connection with its municipal water plant?

A. No sir.

Q. Has the city of Benson any appliances, steam engines, or other motive power which it could use in the operation of its municipal plant?

A. No sir.

Q. And what is the fact as to whether the city of Benson purchased and owns the appliances for converting electrical energy supplied by the Omaha Electric Light & Power Company to you into power at that plant?

Mr. LAMBERT: Objected to as immaterial and irrelevant.

A. We own the motors.

Q. Were you on the governing board of the city of Benson at the time these motors were bought, and this water works plant was installed?

A. I was Chairman of the Village Board at the time the first water works was considered, and the first electrical plant ordered; it was installed after my time; it was ordered when I was chairman of the board.

Q. What is the fact as to whether that electric plant and
569 appliances involved, when ordered and purchased by the city of Benson was done so with reliance upon the fact that the Omaha Electric Light & Power Company was and would continue to furnish electric current to you?

Mr. LAMBERT: That is objected to, no proper foundation laid, calling simply for a conclusion of the witness, incompetent, irrelevant and immaterial.

A. That was the understanding, yes sir, that they would.

Q. You may state what business you are in, Mr. McGuire, in the city of Benson?

A. I have several little businesses there—coal, elevator, livery, and farm machinery.

Q. In any one of these lines of business in which you are engaged, do you utilize power?

A. Yes, sir.

Q. What ones?

A. Elevator business and grinding of feed.

Q. Do you use electric power for elevating grain and grinding of feed?

A. Yes sir.

Q. What power do you use in that work?

A. Four motors installed.

Q. And they are operated by electrical current?

A. Yes, sir.

Q. And the electricity is furnished by what company?

A. Omaha Electric Light & Power Company.

Q. Have you any other motive power available other than those motors that you have testified to in this—otherwise?

A. None of which we are using.

570 Q. Have you any knowledge of any other places of business in Benson wherein electric power is used?

A. Yes, sir.

Q. Where?

A. Two blacksmith shops, and another elevator and feed mill of the same description using one motor instead of four.

Q. Where do the people that operate these plants get their supply of electric current?

A. Omaha Electric Light & Power Company.

Q. In the same way that the city of Benson does?

A. Yes, sir.

Q. Is electrical energy supplied by the Omaha Electric Light & Power Company generally used in Benson?

A. Only power that is used there that I know of—any more power that I could speak of. Krug Park is using power from the Omaha Electric Light & Power Company and run what they term an old motor there and the switchback railway and the merry-go-round, is using electric power at the present time.

Cross-examination.

Mr. LAMBERT: Krug Park has just opened up?

A. This month, yes sir.

Q. Been closed down for some years prior to that time?

A. Yes sir, been closed 3 or 4 years if I recollect right.

Q. Has the Omaha Electric Light & Power Company a franchise from the village of Benson or town of Benson?

A. Yes, sir.

Q. It has for some time?

A. Yes, sir.

Q. Are you familiar with the terms of that franchise?

571 A. I was at one time, but I don't know whether they have been changed since my time on the board or not.

Q. Do you know whether or not the franchise contained any provision authorizing the distribution of current for power, in Benson?

A. Yes, I think it does.

Q. So far as you know?

A. Light and power, I think the franchise shows.

Mr. McHUGH: Put in the objection as incompetent, and motion to strike out the answer.

Q. Do you know of any restrictions in the ordinances or franchises that would prevent the Omaha Electric Light & Power Company from establishing a plant in the city of Benson?

A. No, sir.

Q. The municipal water plant in Benson distributes—furnishes water to the citizens of that place?

A. Yes.

Q. And for your public streets?

A. Yes sir.

Q. I believe you said its source of supply was a well, or wells?

A. Wells—three in all completed—motor ordered for one—125 horse power, which is not received there yet to run high pressure system.

Q. Do you know the amount of power of the motors which you have?

A. We have now at the present time, or will have when we—we have four—one ordered.

Q. I am speaking of those already installed?

572 A. Three.

Q. What is the power?

A. I don't think I would be able to answer correctly—I will tell—I am pretty positive—one is 15 and two 25 horse power motors.

Q. Power is used for pumping purposes?

A. Yes, and for direct pressure in case of fire.

Q. Ordinarily the pressure is furnished by gravity?

A. Ordinarily, unless in case of fire.

Q. That power could be supplied, could it not, by engines—steam engines?

A. It certainly could; it certainly could.

Q. It is simply a matter of preference for a particular kind of power?

A. Yes.

Q. You spoke of the understanding being with the Omaha Electric Light & Power Company that they would continue to furnish current—do you recall any instrument in writing with reference to such understanding?

A. I had only that first contract with them, yes sir.

Q. Have you that contract with you?

A. No sir, I have not now.

Q. Could you, and will you obtain a copy of it?

A. I think the clerk of our city could furnish you with a copy.

Q. Of course we have the clerk here—could you do so?

A. I couldn't without first getting it from the clerk.

Q. Of course a certified copy?

A. Yes, I think we could furnish you with a copy.

Q. Was that matter talked over how long the *company* was going to exist, between the company, and the city, that you know of?

573 Mr. McHUGH: Objected to as incompetent, irrelevant and immaterial.

A. My recollection is that that contract was five years when we first took it.

Mr. McHUGH: Same objection.

Q. Did you have any intimation or understanding that the company might cease to exist when this contract was entered into?

A. No sir.

Q. That fact of itself was not talked over with you and their representatives?

A. No sir, wasn't thought of.

Q. Then, when you say that you contracted with the company for this power on the understanding that it would continue, that is simply the continuation of time mentioned in your franchise?

A. That is all, yes; I might explain that farther; you see in making a new franchise with the company when I was on the board, five or six years, in order to get some extra wiring done they requested they have a contract with the city for five years, and that is the reason why—and they thought five years—five years since the contract elapsed isn't it?

Mr. McHUGH: It isn't very material.

Q. So far as you know then, when this contract was entered into, nothing was discussed, or any assurance made by the company that it would continue forever, or anything like that?

A. I don't think that was thought of.

Q. You knew of no controversy existing between the company and the city of Omaha?

574 A. Not at that time.

Q. The other places using power, including your own, Mr. McGuire, could be readily run by the use of steam power?

A. Not very readily, because we would have to readjust all through the elevator.

Q. There is nothing in the business that would prevent the substitution of steam for electricity?

A. Run by steam or gasoline, either one, by readjustment of the power.

Q. Are you in any way connected with the Omaha Electric Light & Power Company?

A. No sir.

Q. Never have been?

A. No sir.

Q. Have any interest in it?

A. No sir.

Q. Any financial interest?

A. No sir, none, no financial interest.

Q. Have you ever had any financial interest?

A. No sir.

Redirect examination.

Mr. McHUGH:

Q. When you speak of the five years' contract there, as you have, you refer there to the contract for lighting the streets?

A. I think it was, yes, sir.

Q. The franchise or ordinance, as we call it, in Benson, ran for 25 years?

A. I think that is right.

575 Recross-examination.

Mr. LAMBERT:

Q. Do you recollect when that was entered into?

A. At that time for lighting the streets?

Q. The franchise?

A. That must have been about eight years ago I should think, the first franchise we received, fully that long anyway—I expect it was longer than that.

Witness excused.

576 Mr. McHUGH: The complainant now offers in evidence certified copy of the articles of incorporation of the Old Colony Trust Company, complainant in this case, same being marked Omaha Exhibit No. 1. See page 235.

Mr. McHUGH: The Complainant now offers in evidence certified copy of the articles of incorporation of the New Omaha Thompson-Houston Electric Light Company, marked Omaha Exhibit No. 2. See page 227.

Mr. LAMBERT: Objected to as irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence certificate of incorporation of the Omaha Electric Light & Power Company, marked Omaha Exhibit 3. It is agreed by the parties in connection with this suit that the notary public may substitute a correct copy of the articles for this exhibit.

Mr. LAMBERT: I make the general objection of irrelevant and immaterial.

Following is correct copy of Exhibit No. 3—, being certificate of incorporation of the Omaha Electric Light & Power Company.

Copy.

“STATE OF MAINE:

Certificate of Organization of a Corporation under the General Law.

577 We the undersigned, officers of a corporation organized at Portland, Maine, at a meeting of the signers of the articles of agreement therefor, duly called and held at the office of

Ardon W. Coombs in the City of Portland, on Thursday the twenty-fifth day of June, A. D. 1903, hereby certify as follows:

The name of said corporation is Omaha Electric Light and Power Company.

The purposes of said corporation are (1) To carry on business as dealers in and to acquire by purchase or otherwise and hold, own, deal in, manage, pledge, sell and dispose of shares of the capital stock of other corporations, bonds, mortgages and other securities, including choses in action, contracts and interests in contracts.

(2) To carry on in any manner not inconsistent with the laws of Maine the business of furnishing and selling light, heat and power produced by electricity gas or other means.

(3) To construct, equip, license, operate, buy and sell electric and other plants for furnishing illumination, heat or power generated by electricity gas or other methods and to produce and furnish such light, heat and power to individuals, firms, corporations and municipalities requiring the same.

(4) To acquire, use, sell, lease, deal in, mortgage, pledge and dispose of all such property, real, personal or mixed including letters patent, interests therein or licenses thereunder as may advantageously be owned, operated, managed, controlled or dealt in by this corporation in connection with the prosecution of the foregoing business or any branch thereof or in connection with the development of the business of other corporations in which it shall be interested.

In furtherance and not in limitation of the foregoing purposes, the corporation may make, issue and negotiate its own bonds, debentures and other evidence of indebtedness to any amount and on such terms as to security or otherwise as the directors shall approve or authorize; and all or any of the property or assets of the corporation may be mortgaged or pledged to secure payment of such bonds or debentures and the interest thereon.

Provided, however, that nothing herein before contained shall be construed to authorize said corporation to make, generate, sell, distribute or supply gas or electricity within the State of Maine for any purpose or in any manner that would conflict with the laws thereof; and so far as the business from time to time transacted by said corporation shall be such as is ordinarily conducted by a gas or electrical company the same shall be carried on only in other states and jurisdictions and when and where permissible under the laws thereof.

The amount of preferred stock is one million dollars.

The amount of capital stock already paid in is five hundred dollars.

The par value of the shares is one hundred dollars.

The names and residences of the owners of said shares are as follows:

Name.	Residence.	Number of shares.	
		Common.	Preferred.
Ernest L. Carr	Melrose, Mass.	1	.....
William H. Whitney	Boston, Mass.	1	.....
Henry F. Knight	Boston, Mass.	1	.....
Ardon W. Coombs	Portland, Me.	1	.....
Charles H. Tolman	Portland, Me.	1	.....
Treasury stock unissued.		24,495	10000
Total		25,000	10000

Said corporation is located at Portland in the County of Cumberland.

The number of directors is fixed by the by-laws at not less than three nor more than nine the number for each year to be fixed by vote at the meeting when elected; the number for the first year has been fixed at five and their names are Ernest L. Carr, William H. Whitney, Henry F. Knight, Ardon W. Coombs and Charles H. Tolman. The name of the clerk is Charles H. Tolman, and his residence is Portland, Maine. The undersigned, Ernest L. Carr, is president; the undersigned, Charles H. Tolman, is treasurer; and the undersigned, Ernest L. Carr, Ardon W. Coombs and Charles H. Tolman are a majority of the directors of said corporation.

Witness our hands this twenty-fifth day of June, A. D. 1903.

ERNEST L. CARR, *President*.
 CHARLES H. TOLMAN, *Treasurer*.
 ERNEST L. CARR,
 ARDON W. COOMBS,
 CHARLES H. TOLMAN,
Directors.

580

JUNE 25, A. D. 1903.

CUMBERLAND, ss:

Then personally appeared Ernest L. Carr, Ardon W. Coombs and Charles H. Tolman and severally made oath to the foregoing certificate, that the same is true.

Before me,

ELBERT E. NEAL,
Justice of the Peace.

STATE OF MAINE,
 ATTORNEY GENERAL'S OFFICE.

JUNE 25, A. D. 1903.

I hereby certify that I have examined the foregoing certificate, and the same is properly drawn and signed, and is conformable to the constitution and laws of the State.

[SEAL.]

GEO. M. SEIDERS,
Attorney General.

Endorsement on the back thereof: Copy. (Name of Corporation) Omaha Electric Light and Power Company. Cumberland, ss. Registry of Deeds. Received June 25, 1903, at 3 h. 5 m. P. M. Recorded in Vol. 26. page 254. Attest: Ray P. Eaton, Register. By Annie H. Cram, Register's Clerk.

A true copy of record. Attest. Ray P. Eaton, Register, by Annie H. Cram, Register's Clerk. State of Maine. Office of Secretary of State. Augusta, June 26, 1903. Received and filed this day. 581 Attest: A. I. Brown, Deputy Secretary of State. Recorded in Vol. 44, page 369.

STATE OF MAINE,
OFFICE OF SECRETARY OF STATE.

I hereby certify that the foregoing is a true copy from the records of this office.

In testimony whereof, I have caused the seal of the State to be hereunto affixed.

Given under my hand at Augusta this 26th day of June, in the year of our Lord one thousand nine hundred and three, and in the one hundred and twenty-seventh year of the Independence of the United States of America.

[SEAL.]

BYRON BOYD,
Secretary of State.

(End of Omaha Exhibit No. 3. H. E. K.)

Mr. LAMBERT: Objected to as irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence bill of sale of personal property from the New Thompson-Houston Electric Light Company, to the Omaha Electric Light & Power Company, executed on the 29th day of July, 1903, and marked by the reporter as Omaha Exhibit No. 4.

Mr. LAMBERT: Objected to as irrelevant and immaterial, the objection, however, not being to the failure to prove the execution and delivery of the instrument, and it being agreed that the reporter may substitute a correct copy of this exhibit for the original.

582 Following is a true and correct copy of Omaha Exhibit No. 4, with all endorsements. H. E. K.

Copy.

OMAHA EXHIBIT NO. 4. H. E. K.

"Know all men by these presents:

That for a good and valuable consideration paid to the New Omaha Thomson-Houston Electric Light Company (a corporation under the laws of Nebraska) by the Omaha Electric Light and Power Company (a corporation under the laws of Maine) the receipt whereof is hereby acknowledged, said New Omaha Thomson-Houston Electric Light Company hereby sells, assigns and transfers unto said Omaha Electric Light & Power Company all the property and assets of said

New Omaha Thomson-Houston Electric Light Company, of every kind and description, including all its rights, privileges, franchises (other than the franchise to be a corporation) contracts, business and good will as a going concern.

To have and to hold the same unto said Omaha Electric Light & Power Company, its successors and assigns, to its and their own absolute use forever.

This transfer of property and business, though presently made, is to be considered as taking effect as of August 1st, 1903.

This transfer is business and property is to be made subject to all the debts and liabilities of the vendor company existing on
583 said first day of August, including obligations under leases and contracts and any causes of action against it, which liabilities and obligations the vendee assumes and agrees to pay as a part of the consideration of this instrument.

The foregoing sale and transfer are intended to be made in pursuance of an agreement heretofore made by and between the vendor and vendee, as evidenced by a request and proposal submitted by said Omaha Electric Light and Power Company, under date of July 17, 1903, to said New Omaha Thomson-Houston Electric Light Company, and by a resolution and vote, the former adopted by all the stockholders of said New Omaha Thomson-Houston Electric Light Company at a meeting duly held for the purpose at Omaha, Nebraska, on the twentieth day of July, 1903, and the latter passed unanimously by the Directors of that Company at a meeting held on the same day (July 20, 1903) every member of the Board being present and voting. Said request and proposal, and also said resolution of stockholders and vote of Directors, are severally to be taken as if incorporated herein.

In witness whereof, said New Omaha Thomson-Houston Electric Light Company has caused these presents to be executed in its behalf, under its corporate seal by Frederick A. Nash, its President, and S. E. Schweitzer, its Secretary, this 29th day of July, 1903. Executed in duplicate.

584

NEW OMAHA THOMSON-HOUSTON ELECTRIC LIGHT COMPANY,
By FREDERICK A. NASH, *President*.

Attest:

S. E. SCHWEITZER,
[SEAL.] *Secretary*.

Mr. LAMBERT: Objected to as irrelevant and immaterial, the objection, however, not going to the failure to prove the execution and delivery of the instrument, and it being agreed that the reporter may substitute a correct copy of this exhibit for the original.

Mr. McHUGH: The complainant now offers in evidence an assignment of the franchise and other rights of the New Thomson-Houston Electric Light Company, to the Omaha Electric Light & Power Company, executed on the first day of August, 1903, and marked Omaha Exhibit No. 5.

Following is a true and correct copy of Omaha Exhibit No. 5, with all endorsements. H. E. K.

Copy.

OMAHA EXHIBIT. NO. 5. H. E. K.

Know all men by these presents:

The New Omaha Thomson-Houston Electric Light Company (a corporation organized under the laws of the State of Nebraska) for and in consideration of the sum of One Dollar, and other good and valuable considerations, in hand paid by Omaha Electric Light & Power Company (a corporation organized under the laws of the state of Maine) has sold and assigned and by these presents does hereby sell, assign, transfer and set over to the said Omaha Electric Light & Power Company the following contracts, rights, franchises, licenses and privileges, to-wit:

All rights, franchises, licenses, privileges and immunities granted by virtue of an ordinance known as No. 826 and entitled "An Ordinance granting the right of way to the Omaha New Thomson & Houston Electric Light Company, and regulating the same and prescribing penalties for the violation of this ordinance," passed by the Mayor and council of the City of Omaha in the State of Nebraska, December 16th, 1884.

Also all rights, franchises, licenses, privileges and immunities granted or created by virtue of an ordinance known as Ordinance No. 4569, and entitled: "An Ordinance amending an Ordinance Numbered 826, entitled: "An Ordinance granting the right of way to the Omaha New Thomson & Houston Electric Light Company and regulating the same and prescribing penalties for the violation of this ordinance", passed by the Mayor and Council of the City of Omaha, April 25th, 1899.

Also that certain contract, and all rights arising or to arise thereunder, between the New Omaha Thomson-Houston Electric Light Company and the City of Omaha in the State of Nebraska, providing for the furnishing of electric lights to said city and which said contract was entered into as of the 4th day of March, A. D. 1902.

Also all rights, franchises, licenses, privileges and immunities granted by virtue of an ordinance known as ordinance No. 849 and entitled "An ordinance granting the right of way to the Magic City Electric Light and Power Company, regulating the same and providing penalties for interference with or injury to the property of said company" passed by the Mayor and Council of the city of South Omaha and approved April 14th, 1899.

Also all rights, franchises, licenses, privileges and immunities granted by virtue of an ordinance known as No. 889, and entitled "An ordinance granting right of way to the South Omaha Water Works Company and regulating the same and providing penalties for the violation of this ordinance and entering into a contract between the South Omaha Water Works Company and the City of

South Omaha," passed by the Mayor and Council of the City of South Omaha and approved October 26th, 1899.

Also that certain contract in writing between the South Omaha Water Works Company and the City of South Omaha, and all rights arising or to arise thereunder, providing for the furnishing of electric lights to the said city of South Omaha and which said contract was entered into as of the 26th day of October, A. D. 1899.

Also all rights, franchises, licenses, privileges and immunities granted by virtue of an ordinance known as ordinance No. 61, and entitled: "An ordinance granting to the New Omaha Thomson-Houston Electric Light Company, the right of way upon, over, through and under the streets, alleys and public grounds of the village of Dundee for the erection and maintenance of poles, wires and all other necessary instrumental-ties for the transmission of electricity for light, power, heat and all other commercial purposes, prohibiting the injuring or interfering with such poles, wires, and instrumental-ties, and prescribing penalties for the violation thereof," passed by the Chairman and Board of Trustees of the Village of Dundee in the County of Douglas and State of Nebraska, October 17th, A. D. 1902.

Also that certain contract and all rights arising or to arise thereunder, between the Village of Dundee in Douglas County, Nebraska, and the New Omaha Thomson-Houston Electric Light Company providing for the furnishing of electric lights to said village, and which said contract was entered into in writing as of the 7th day of July, A. D. 1903.

Also all rights, franchises, licenses, privileges and immunities granted by virtue of an ordinance of the village of Benson in the County of Douglas and State of Nebraska, entitled: "An ordinance granting to the New Omaha Thomson-Houston Electric Light Company, the right of way upon and through the streets, alleys and public grounds of the village of Benson for the erection and maintenance of poles, wires and other necessary instrumentalities for the transmission of electricity for light, power, heat and all other commercial purposes and which said ordinance is known as ordinance No. 36.

Also that certain contract in writing and all rights arising or to arise thereunder between the New Omaha Thomson-Houston Electric Light Company and the village of Benson in the County of Douglas and state of Nebraska, providing for the furnishing of electric lights to said village, and which said contract was entered into on the 27th day of January, A. D. 1902.

*To have and to hold the same and all thereof, unto the said Omaha Electric Light and Power Company, its successors and assigns forever.

The foregoing sale and transfer is made pursuant to an agreement by and between the vendor and vendee, authorized by all of the stockholders of said New Omaha Thomson-Houston Electric Light Company, at a meeting duly held for the purpose, at Omaha, Nebraska, on the 20th day of July, A. D. 1903, and authorized also by the unanimous vote of the directors of said company at a meet-

ing held on the same day, all the members of said Board of Directors being present and voting.

In Witness whereof said New Omaha Thomson-Houston Electric Light Company has caused these presents to be executed in its name by its president and attested by its secretary and its corporate seal to be affixed hereto this 1st day of August, A. D. 1903.

THE NEW OMAHA THOMSON-HOUSTON
ELECTRIC LIGHT COMPANY,

[SEAL.] By F. A. NASH, *President*.

Attest:

S. E. SCHWEITZER, *Secretary*.

589 Following endorsement on back of instrument: Assignment of contracts, Rights, Franchises, Licenses & Privileges. New Omaha Thomson-Houston Electric Light Company to Omaha Electric Light & Power Company.

Mr. LAMBERT: Objected to as irrelevant and immaterial, objection does not go to fact that no proof of the execution and delivery or of the signature is made and it is agreed that the reporter may substitute a correct copy of said exhibit for the original.

Mr. McHUGH: The Complainant now offers in evidence the deed of Real Estate executed by the New Omaha Thomson-Houston Electric Light Company to the Omaha Electric Light & Power Company, executed on the 25th day of July, 1903, together with acknowledgement thereof and certificate of the Register of deeds as to the recording thereof in his office on the 30 of July, 1903, and marked Omaha Exhibit No. 6.

Following is a true and correct copy of Omaha Exhibit No. 6, with all endorsements. H. E. K.

Copy.

OMAHA EXHIBIT No. 6. H. E. K.

Know all men by these Presents:

That the New Omaha Thomson-Houston Electric Light Company, a corporation, duly organized under the laws of Nebraska, in consideration of One Dollar and other good and valuable considerations in hand paid by the Omaha Electric Light and
590 Power Company, a corporation duly organized and existing under the laws of the State of Maine, the receipt whereof is hereby acknowledged, does hereby grant, bargain, sell, convey, and confirm unto said Omaha Electric Light and Power Company the following described real estate, situate in the County of Douglas and State of Nebraska, to-wit:

(1) Beginning at a point eighty (80) feet south and three hundred and fifty-five and thirteen one hundredths (355.13) feet east of the southeast corner of Fractional Block One Hundred and Eighty-one (181) in the City of Omaha, and running thence south

three hundred and five (305) feet; thence east sixty-six (66) feet; thence north three hundred and five (305) feet; thence west sixty-six (66) feet to the place of beginning. Also the following described real estate, to-wit: Commencing at a point eighty (80) feet south and four hundred and twenty-one and thirteen one hundredths (421.13) feet east of the southeast corner of Fractional Block One Hundred and Eighty-one (181), in the City of Omaha, and running thence south three hundred and five (305) feet; thence east sixty-six (66) feet; thence north three hundred and five (305) feet, and thence west sixty-six (66) feet to the place of beginning. Being the same premises conveyed to the grantor by the Thomson-Houston Electric Company, by deed dated Oct. 14, 1899, and recorded in the Register of Deeds' Office, Douglas County, Nebraska, Book 129 of Deeds, Page 459.

(2) The East forty (40) feet of lot seven (7), in Block Eighty-eight (88) in the City of South Omaha, and State of Nebraska. This conveyance is made on the express condition that said Grantee herein reserve two feet of ground from the west side of said forty (40) feet to be used for a private alley in connection with ten (10) feet of ground from the East side of the west one hundred and ten (110) feet of said Lot seven (7) to be furnished by Frank J. Lewis, which said two and ten feet respectively are to be used together and maintained permanently for the common use of the said Frank J. Lewis and the Grantee herein, and their heirs, administrators, successors and assigns. The parcel in this paragraph 2 described being the same premises conveyed to the grantor by said Frank J. Lewis, by deed dated Nov. 22, 1899, and recorded in the office of the Register of Deeds, Douglas County, Nebraska, Book 252 of Deeds, Page 61.

(3) Beginning at a point in the north line of lot One (1) in Block Eighty-two (82) of South Omaha as surveyed, platted and recorded, eighty-two (82) feet west from the northeast corner of said lot, thence running south parallel with the east line of said lot forty (40) feet; thence west parallel with the north line of said lot ninety-nine and one tenth (99.1) feet to the west line of said lot; thence north thirteen degrees and thirty minutes (13 30') west along the west line of said lot forty-one and one tenth (41.1) feet to the northwest corner of said lot; thence east along the north line of said lot forty and eight tenths (40.8) feet; thence north twenty (20) feet; thence east parallel with the north line of said lot sixty-eight (68) feet; thence south twenty (20) feet to the point of beginning; containing fifty-five hundred and thirty-eight (5538) square feet, more or less. Together with all buildings and fixtures on said property, and all tenements, hereditaments and appurtenances to the same belonging, and all the estate, right, title, claim or demand whatsoever of the grantor of, in or to the same or any part thereof. The parcel in this paragraph 3 described being the same premises conveyed to the grantor by the South Omaha Water Works Company by deed dated July 30, 1900, and recorded in the office of the Register of Deeds, Douglas County, Nebraska, Book 238 of Deeds, Page 21.

To have and to hold the above described premises with the appurtenances, unto the said Omaha Electric Light and Power Company, its successors and assigns, forever.

And the said New Omaha-Thomson-Houston Electric Light Company for itself and its successors, does covenant with the said Omaha Electric Light and Power Company, and with its successors and assigns, that it is lawfully seized of said premises; that they are free from incumbrances, except as hereinbefore shown in regard to right

of way; that it has good right and lawful authority to sell
593 the same; and that it will and its successors shall Warrant and Defend the same unto the said Omaha Electric Light and Power Company and its successors and assigns forever against the lawful claims and demands of all persons whomsoever, except as aforesaid.

In witness whereof, the said New Omaha Thomson-Houston Electric Light Company has caused this instrument to be properly executed by its proper officers, this 25th day of July, 1903.

NEW OMAHA THOMSON-HOUSTON
ELECTRIC LIGHT COMPANY,
By **FREDERICK A. NASH**, *President*.

Attest:

S. E. SCHWEITZER, *Secretary*.

Signed and executed in the presence of

EDGAR M. MORSMAN, JR.

STATE OF NEBRASKA,

County of Douglas, ss:

On this 29th day of July, 1903, before me, a Notary Public, in and for the County and state aforesaid, personally came the above named Frederick A. Nash, to me personally known to be the identical person who executed the foregoing instrument on behalf of the New Omaha Thomson-Houston Electric Light Company as its President, and personally known to me to be the President of said Company and S. E. Schweitzer, personally known to me to be the identical person who attested the execution of the foregoing instrument as Secretary of the New Omaha Thomson-Houston
594 Electric Light Company, and personally known to me to be the Secretary of said Company, and they each severally acknowledged the foregoing instrument to be their voluntary act and deed of each of them and the voluntary act and deed of the New Omaha Thomson-Houston Electric Light Company.

Witness my hand and Notarial seal the day aforesaid,
Com. expires, M'ch 10, 1909.

[SEAL.]

EDGAR M. MORSMAN, JR.,
Notary Public, Douglas County, Nebraska.

M'ch 10, 1909.

Following endorsement on back of instrument: 8 Mail. 23-18 13. N 7 Uls. D & T. Compared. P. N. P. G. New Omaha Thomson-Houston Electric Light Company to Omaha Electric Light & Power Company. Deed of Real Estate. July 25, 1903.

THE STATE OF NEBRASKA,
Douglas County, ss:

Entered on Numerical Index and filed for record in the Register of Deeds' office of said county, the 30th day of July, 1903, at 1:17 o'clock P. M. and recorded in the Book 265 of Deeds page 205.

HARRY P. DEUEL,
Register of Deeds.

595 Johnson, Clapp & Underwood, 50 State Street, Boston.
Mail W. W. Morsman, Om. Nat. Bk. Bldg.
1.17. \$1.75.

Mr. LAMBERT: Same objection as before, irrelevant and immaterial but this does not go to the fact that no proof of the execution or delivery is made or of the signatures, and it is agreed that the reporter may substitute a correct copy of said exhibit for the original.

Mr. McHUGH: The complainant now offers the mortgages executed by the Omaha Electric Light & Power Company to the Old Colony Trust Company, and to save expense it is agreed by the parties hereto that exhibits L. N. O. & P. to bill of complaint herein correctly set forth the said instruments and no objection being made as to the fact that no preliminary proof of execution and delivery of said instruments is made.

Mr. LAMBERT: The respondent objects to the offer as irrelevant, incompetent and immaterial.

Mr. McHUGH: The complainant now offers in evidence the opinion of the Supreme Court of the State of Nebraska in the case of Julius C. Sharp, et al., Appellees v. City of South Omaha, et al., Appellants. Filed February 2, 1898, it being agreed 596 that the reporter may copy the same from volume 53 of the Nebraska Reports beginning at page 700 and ending on page 706, the exhibit being marked Omaha Exhibit No. 7.

Copy.

OMAHA EXHIBIT No. 7. H. E. K.

Filed February 2, 1898.

No. 9660.

JULIUS C. SHARP et al., Appellees,

vs.

CITY OF SOUTH OMAHA et al., Appellants.

1. Municipal corporations: Gas Companies; Franchises. It is with the power of cities of the first class having less than 25,000

inhabitants to grant the right to a gas company to lay and maintain its pipes and mains under the streets and other highways of the city for the purpose of supplying its inhabitants with gas, and to regulate the charge therefor.

2. —: —: —: The authority to grant a franchise is not restricted to persons or companies authorized to erect works within the city for the manufacture of gas, nor need such franchise be limited to the period of five years.

3. —: —: —: Subdivision 15 of section 68 of chapter 13a, article 2, Compiled Statutes, is not a restriction upon subdivision 16, but a concurrent provision relating to another subject, the former to laying mains on the streets, the latter to lighting the streets.

597 Appeal from the Distrit Court of Douglas County.

Heard below before Scott, J. Reversed.

George E. Pritchett for Appellants.

J. M. Woolworth and Congdon & Parish, contra.

IRVINE, C.:

The Council of the city of South Omaha passed, and the mayor approved, an ordinance purporting to grant to the South Omaha Gas Light Company, its successors and assigns, authority for a period of twenty-five years, to sell and supply gas within the city, and to lay and maintain pipes and mains under the surface of the streets, alleys and other public highways of the city. In pursuance of provisions in the ordinance of South Omaha Gas Company, assigned its rights, through an intermediate grantee, to the Omaha Gas Company. The Omaha Gas Company was proceeding to lay its mains in the streets of South Omaha when this suit was begun by three taxpayers of South Omaha, who alleged in their petition the foregoing facts and asserted that the ordinance was void. The prayer was for an injunction restraining the gas companies from laying their pipes and the defendants, the city and the two gas companies, from performing any acts in pursuance of the ordinance. The City did not appear in the action, and its default was entered. The two gas companies answered, denying many of the averments of the petition. A decree was rendered reciting that the cause was "submitted

598 to the court upon the petition of the plaintiffs, Julius C. Sharp, Harry Sharp and Louis Schroeder, and the answer and demurrer of the defendants the South Omaha Gas Light Company and the Omaha Gas Company, without evidence, and was argued by counsel, on consideration whereof the court finds upon the issues joined between the plaintiffs—and the defendants—in favor of the plaintiffs", and granting a perpetual injunction as prayed. This finding is not so unwarranted as would appear at first blush, because the averments of the petition were largely conclusions of law, and most of the denials in the answer were denials of those conclusions. Where issues of fact were joined their materiality is doubtful. The

real question is the power of the mayor and council to enact such an ordinance, its passage, approval and terms being admitted.

The charter provisions invoked on either side as bearing on the question, are the following, from article 2, chapter 13*a*, Compiled Statutes:

SEC. 35. "The Mayor and council shall have the care, supervision and control of all public highways, bridges, streets, alleys, public and control of all public highways, bridges, streets, alleys, public be kept open, and in repair and free from nuisances."

SEC. 68, sub. 15. "To make contracts with and authorize any persons, company, or association to erect gas works, electric or other light works in said city, and give such persons, company, or
599 association the privilege of furnishing lights for the streets, lanes, and alleys of said city for any length of time not exceeding five years to purchase or provide for, establish, construct, maintain, operate and regulate, for the city, any such gas works, electric or other light works; or to condemn and appropriate for the use of the city, gas works, electric or other light works and plants in a manner and form as provided in subdivision nineteen of this section; and to levy a tax not exceeding five mills on the dollar in any one year for the purpose of paying the cost of lighting the streets, lanes, and alleys of said city, or for the purpose of buying or establishing, extending, and maintaining such gas works, electric or other light works; and where the amount of money which would be raised by the tax levy provided for in this section would be insufficient to establish or pay for a system of gas, electric, or other light works, to borrow money and pledge the property and credit of the city upon its negotiable bonds or otherwise to an amount not exceeding fifty thousand dollars for the purpose of establishing or paying for, maintaining, and operating such gas, electric, or other light works, authority therefor having first been obtained by a majority vote of the people at an election upon a proposition submitted in a manner
600 provided by law for the submission of propositions to aid in construction of railroads and other works of internal improvement; and when any such bond shall have been issued by the city to levy annually upon all the taxable property of the city, such tax as may be necessary (not exceeding one mill for twenty thousand dollars of bonds so issued) for a sinking fund for the paying of the accruing interest on such bonds and the principal thereof at maturity; to provide for the office of light commissioner, and to prescribe the duties and power of such office; Provided, That in cities having a water commissioner, such water commissioner shall be ex officio light commissioner.

SEC. 68, sub. 15. "To provide for the lighting of streets, laying down of gas pipes, and erection of lamp posts, and to regulate the sale and use of gas and electric or other lights and the charge therefor, and the rent of gas meters within the city, and to require the removal from the streets, avenues, and alleys, and the placing underground of all telegraph, electric and telephone wires."

The ordinance attacked provides in its first section that the South Omaha Gas Light Company, its successors and assigns, are author-

ized for a period of twenty-five years, "to sell and supply gas in the city of South Omaha, Douglas County, Nebraska, and to use, lay and maintain pipes and mains, with all necessary and proper attachments, connections, and appurtenances below the surface of the highway, sidewalks, streets, alleys, lanes, avenues, boulevards, and public places, and on bridges and viaducts in said city," etc. By the second section the quality of gas furnished is specified, and it is provided that it shall be sold at a certain maximum rate. By section 3 it is provided that the company shall furnish gas to the city for its public buildings at the rate of \$1 per 1,000 cubic feet. Other provisions regulate in detail the manner of laying pipes, and provide for the payment to the city of five cents for each thousand cubic feet of gas sold and paid for. A forfeiture is provided in case of the company's failure to perform any of the conditions of the ordinance. Provision is made for the city's requiring the company to extend its mains, and in this connection is the following: "The South Omaha Gas Light Company, its successors and assigns, shall be required to extend its mains upon like requests whenever the city shall enter into contract with it for lighting and furnishing with gas not less than four street lamps for every 1,000 feet of such extension," etc. It will be observed that the ordinance does not expressly authorize the construction of gas works within the city. It only authorizes the use of the streets and other public highways for the laying and maintenance of mains. Nor is there involved in the ordinance any contract for the lighting of the streets. The clause last quoted merely anticipates the probability of such a contract in the future, and in view of that probability reserves a power to require a further use of the franchise than the grantee might see fit to make of its own accord. It is alleged in the petition, denied in the answer, and without evidence found by the court to be true, that the assignee, having already gas works in Omaha, intends to supply the city of South Omaha from such works. We shall assume as the district court did, that the ordinance did not contemplate the erection of works for the manufacture of gas in South Omaha.

It is admitted by the plaintiffs that the general power of control over the streets, conferred by section 35, would be sufficient, if that section stood alone, to authorize such an ordinance as the one under consideration. It is practically admitted that subdivision 16 of section 68, standing alone, would not restrict the power conferred by section 35, even if it did not itself grant the power. It is, however, contended that subdivision 15 is a specific grant on the subject, which prevails against and limits the more general provisions, and restricts the power of the city in the premises to the granting of the right to lay pipes in the streets to such persons, companies, or associations as have already or contemporaneously been authorized to erect gas works in the city, and that then the franchise cannot endure for more than five years. In support of this argument attention is called to the subsequent provisions of subdivision 15, for the acquisition, by construction, purchase, or condemnation, of gas works. The argument is that the language of the grant of power is confined to persons or corporations which shall have gas works in the city, and that a reason is found for the

restriction in a manifest policy of the act to provide for ultimate municipal ownership. It is said that effective exercise of those provisions demands that private plants should be wholly within the city. The force of this argument is entirely destroyed by reference to the fact that previous to 1895, subdivision 15 began as at present, but ended with the words "not exceeding five years." The provisions for municipal construction, purchase, and condemnation were added by amendment in that year. (Session Laws 1895, ch. 13.) The peculiar language of the first part of the statute could not, therefore, have been adopted with any reference to the policy of municipal ownership. We must ascertain the force of the provisions by looking to their original form. The new words do not effect this case. There was then a general supervision and control of the streets vested in the council. This was followed by a grant of power to authorize "any person—to erect gas works—in said city, and give such persons,—the privilege of furnishing lights for the streets—for any length of time not exceeding five years." Then there came a grant of power, referring again to the lighting of streets, but also to keeping them free from electric wires, and also to provide for the laying down of gas pipes, and regulate the sale and use of gas and the charge therefor.

604 Subdivision 15 relates solely to the lighting of highways.

Subdivision 16 relates, among other things, to the furnishing of gas to private consumers and the use of the streets for that purpose. They are separate provisions relating to different subjects, not intended the one to nullify the other, but intended to exist concurrently and each to control with reference to its own subject-matter. We need not consider whether contracts may be made for lighting the streets with persons who have not gas works within the city. Entirely distinct from the provisions on that subject there is ample grant of power, unqualified as to persons, method, or time, to regulate the laying down of mains, the sale and use of gas, and the rate to be charged therefor. The ordinance in question extends only to that subject and is within the power.

Reversed and Dismissed.

(End Omaha Exhibit No. 7, H. E. K.)

Mr. LAMBERT: To which the Respondent objects as being incompetent, irrelevant and immaterial, it being admitted that the opinion is the opinion of the Supreme Court of the State of Nebraska.

Mr. McHUGH: The complainant now offers in evidence the opinion of the Supreme Court of the State of Nebraska in the case of the Nebraska Telephone Company, Appellee, v. City of Fremont,
605 et al., Appellants. Filed May 18, 1904, the same to be marked Omaha Exhibit No. 8, it being agreed that same is the opinion of the Supreme Court of the State of Nebraska, and that the reporter may copy the same from Volume 72 of the Nebraska reports, beginning at page 25 and ending on page 32.

Copy.

OMAHA EXHIBIT No. 8. H. E. K.

Filed May 18, 1904.

No. 13590.

NEBRASKA TELEPHONE COMPANY, Appellee,
vs.
CITY OF FREMONT, et al., Appellants.

1. Cities: Use of Streets by Public Service Corporations.

When a city ordinance prescribes that permission to occupy the streets by a public service corporation shall be obtained with the consent of the mayor and council, such consent is sufficiently proved by an entry in the records of a meeting of the council presided over by the Mayor, reciting that a motion granting it was offered by a member and adopted, there being nothing to indicate that the mayor dissented.

2. * * * Forfeiture. Forfeiture of the franchises and easements of a public service corporation in the streets can be declared and enforced only by a court of competent jurisdiction. The city claiming a forfeiture cannot be a judge in its own cause, or invade the privileges, or destroy the property of such a corporation, in the absence of judicial warrant for so doing.

Appeal from the District Court for Dodge County.

Conrad Hollenbeck, Judge. Affirmed.

606 Gray & Abbott, for appellants.

W. W. Morsman and Frank Dolezal, Contra.

AMES, C.:

In 1881, J. J. Dickey, L. H. Korty and W. J. Bigger united in an association, not incorporated, and named by them the Fremont Telephone Company. By that name they applied to the mayor and council of the city of Fremont in session, on the 17th day of December, in that year, for permission to construct and maintain a system of poles, wires, and apparatus constituting a telephone exchange, through and over the streets, avenues and alleys of the city. Having heard the application the body instructed the city attorney to prepare an ordinance suitable to accomplish the desired purpose, and adjourned until the 19th of the month. At an adjourned meeting, held accordingly, an ordinance was duly enacted, and the following entry appears on the record of the proceedings: "On motion of Murray, a permit was granted to the Fremont Telephone Company, to erect their poles and wires thereon, subject to ordinance number 77", the measure just adopted. Of sections one and two of the ordinance, which was unanimously adopted, the following is a copy: "SECTION 1. That any person, company or corporation, is hereby authorized to erect poles and wires on the streets of the city

of Fremont for the purpose of erecting and maintaining any telephone, telephones, telegraph or telegraphs, upon obtaining
607 the consent of the mayor and council of said city to such use of the streets; provided, that such poles and wires be so erected as to in no manner interfere with the public use of the streets and sidewalks of said city; and provided further, that the erection of such poles and wires shall always be under the supervision and control of the committee on streets and sidewalks of said city; and provided further, that the location and height of any pole or wire may at any time be changed by the council.

"SECTION 2. The consent of the mayor and council, provided for in the first section of this ordinance, may be given at any regular or special meeting of the council, and shall be entered upon the minutes, and such consent shall authorize the use of the streets of said city for the erection of telephone or telegraph lines, subject to such regulations as have been or may be provided by ordinance; provided that in all cases where any person is desirous of moving any building or buildings through the streets of said city, any party owning or controlling said wires shall, after having twenty-four hours' notice, raise up said wires enough to enable the ready and free movement of such buildings."

There is no question as to the authority of the city to grant the license or privilege, as by these proceedings it purported to do.
608 Shortly afterwards the association accepted the grant, and constructed an exchange, occupying some of the streets and alleys for that purpose, and they maintained the system thereafter for the service of the citizens continuously until December, 1882, when they surrendered possession of it to the plaintiff, a corporation, in consideration of the receipt in exchange therefor \$3,600, in par amount of its capital stock, estimated to be of that value. At that time the number of patrons of the exchange was a few score, but the plaintiff, after obtaining possession, continued in the enjoyment of it uninterruptedly and without protest until shortly before the beginning of this action in January, 1903, or for a period of 20 years. During that time it reconstructed the entire system, extending it over additional areas and increasing the number of its patrons by nearly 400. Throughout this interval, its right so to do seems never to have been questioned, and its relations with the city authorities appear to have been friendly. In so doing, the company, with the knowledge and acquiescence of the city, expended large sums of money, so that the system is now concededly of the value of \$25,000. It contracted with the plaintiff concerning the location of electric light wires, maintained by the city, so as to avoid interference, and paid it an agreed compensation for the use of its poles for the support of wires for its fire alarm system, and continuously, from and after 1890, the city levied against and collected from it an annual occupation tax.

609 In December, 1902, the mayor and council adopted a resolution purporting to forbid the erection by the plaintiff of poles and wires on any part of the streets, avenues and alleys of the city not already so in use, and to prohibit it from replacing such

structures in the public ways theretofore so occupied, when by decay or usage they should become deteriorated and unfit for the transaction of the business of the exchange. Notwithstanding this prohibition the company did erect some poles and put up some wires which the city authorities, pursuant to this resolution, caused to be cut down and destroyed, and this action was begun to restrain them from the repetition of such conduct. A temporary injunction was granted, which by final decree was made perpetual, and the city appealed to this court.

It is first contended that no valid permission was granted to the association for the construction of the system in the first instance, because the ordinance enacts that such privilege shall be granted, if at all, by the mayor and council, and the entry upon the record of the proceedings of the meeting of the council does not recite that the mayor consented thereto. But it is recited that he was present and presided at the meeting, and he presumably announced the adoption of the resolution without objection, nothing in the record indicating the contrary. The mayor and council, when in session, constitute a single collective and deliberate body, and we think that his assent to the motion is a fair inference from the entry in the minutes.

610 It is next contended that, even if the proceedings were sufficiently formal and complete, they amounted to a grant to the members of the association personally, and not to their successors or assigns, of a franchise having the character of an easement in, over and upon the streets, avenues and alleys of the city, and that such easement is real property, an estate in land, which can be alienated only with the consent of the public, expressed through the legislature, and then only by means of an instrument in writing executed in conformity to the provisions of the statute relative to the conveyance of land. And it is urged that no such consent has been shown, and no such instrument has been produced, and that therefore the plaintiff is a mere trespasser upon the streets, and its poles and wires unlawful obstructions and nuisances, which it is not only the right but the duty of the city authorities to remove therefrom. Granting, for the sake of discussion, the defendant's premises, we do not think that its conclusion follows therefrom. By the terms of the ordinance, there was a grant to the association, in perpetuity, of a right of way or easement over all its public ways, without restriction or limitation. It was subject to certain conditions and regulations as to the manner of user, which are not in controversy here, and which we have not thought it necessary to set forth, and it was and is, doubtless, forfeitable for unspecified acts of abuse, abandonment and nonuser, and it may be conceded
611 that another person or corporation cannot be legally substituted in its stead without the consent or acquiescence of the public, but if such consent had been given, the manner of the transfer would be a matter in which the public would have no interest. It is not a matter of public concern whether A conveys his land to B by deed or by livery, or whether the former permits the latter to enter and acquire the estate by adverse possession, without

color of title or consent. With all that neither the public nor the grantor of A has any concern. As respects this phase of the controversy, the city stands in the attitude of A's grantor. The latter may recover possession from B if A has incurred forfeiture by breach of a valid covenant against alienation, but he cannot complain that an attempted alienation was ineffectual or void between the parties to it. Such contention, if upheld, would defeat his claim for forfeiture. For the same reasons the city cannot complain that, as between the association and the plaintiff, the attempted transfer from the former to the latter was lacking in essential formalities. Statutes and legal rules relative to the forms and instruments requisite for the creation and transfer of states and interests in real property were made for the regulation, exclusively, of the rights and obligations of the parties to such transactions, and of persons claiming through or under them. In this instance, the city claims

612 adversely to both parties, the association and the plaintiff.

But it is conceded by both that the plaintiff is, and for 20 years past has been, with the consent of the association in the peaceable possession of the franchises and easements granted by the city to the latter. And that concession, we think, precludes, in this action, any necessity for an inquiry into the manner in which that possession was acquired. Let it then be assumed, but without deciding—for, in our opinion, the question is not now before the court for decision, that the transfer from the association to the plaintiff was in violation of public law, that it was an abandonment by the former, followed by nonuser of such character that it incurred thereby liability to forfeiture of its grant. Has the plaintiff, by reason of the premises, become a trespasser upon the streets of the city and its property subject to spoliation by the city authorities or by the first comer? We have been cited to no judicial decision to that effect, and are quite confident that none can be found. By hypothesis, the city made a valid grant of a valuable estate in lands and put its grantees into possession. By some means—no matter or how, the plaintiff, to use a common law expression, became seized of that estate. The city claims that the fact and manner of its grantee's disseizin has worked a forfeiture of the estate. Can the city sit in judgment on its own cause, and execute the judgment

without more ado? We think not. A city, like an individual, can recover that which it has conveyed away, only by a voluntary reconveyance or surrender, or by the judgment of a court of competent jurisdiction. The declaration and enforcement of a forfeiture are judicial acts which can be performed neither by a municipal council nor by the legislature. This is so familiar a proposition of law that little or no authority need be cited in its support, though the books are full of it. Thus says Beach on Private Corporations, vol. 1, Sec. 45:

"It is conceded that a corporation may forfeit its charter or franchises for wilful misuser or nonuser thereof. For it is a tacit condition, annexed to the creation of every corporation, that it shall be subject to dissolution by forfeiture of its franchises for wilful misuser or nonuser in regard to matters which go to the essence of

the contract between it and the state; and a proceeding upon an information in the nature of quo warranto, filed by the attorney general on behalf of the state, is the proper mode of trying the issue. The power of the courts in this respect is exclusive. The forfeiture of corporate charters is a penalty to be imposed by the judiciary alone. Under no circumstances can the legislature presume to declare a forfeiture. Such an usurpation of judicial powers would be hostile to one of the fundamental principles of the American system, by which the legislature, executive and judicial departments of government are required to be forever separate, and would be a denial of due process of law. For 'in these cases there are necessarily adverse parties; the questions that would arise are essentially judicial; and over them the court possesses jurisdiction at the common law; and it is presumable that legislative acts of this character must have been adopted carelessly, and without due consideration of the proper boundaries which mark the separation of legislative from judicial duties.' It follows, as a matter of course, that the legislature cannot strengthen an enactment of forfeiture by reciting therein facts which would constitute a ground for a judicial declaration of forfeiture." See also cases cited in notes.

The Fremont telephone system is not an unlawful structure but a public work of great utility. The plaintiff, if in unlawful possession, to the detriment of the public, may be ousted by appropriate judicial proceedings, but private rights and public interests alike forbid wanton destruction of the property.

It is recommended that the judgment of the district court be affirmed.

Letton and Oldham, CC., concur.

By the COURT: For the reasons stated in the foregoing opinion it is ordered that the judgment of the district court be affirmed.

615 (End of Omaha Exhibit No. 8. H. E. K.)

Mr. LAMBERT: To all of which the respondent objects for the reason that it is incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant offers in evidence pages 1, 2, 3, 4, 5 and the first paragraph of page 6 of the Brief of Appellants offered in the Supreme Court of the State of Nebraska in the case of the Nebraska Telephone Company Appellee vs. the city of Fremont, et al., Appellant-, in which case the opinion has just been offered in evidence, it being admitted that the Brief is a part of the Brief in the case as stated, the same being marked Omaha Exhibit No. 9 and it being agreed that the reporter shall substitute a correct copy thereof.

Copy.

OMAHA EXHIBIT No. 9. H. E. K.

In the Supreme Court of Nebraska.

THE NEBRASKA TELEPHONE COMPANY, Plaintiff and Appellee,
vs.
THE CITY OF FREMONT, WALLACE WILSON, J. M. SHIVELY, J. C.
Lee, R. M. Herre, J. K. Fuchs and John D. Markey, Defendants
and Appellants.

Appeal from Dodge County.

Brief of Appellants.

616 W. W. Morsman and Frank Dolezal, Attorney- for Ap-
pellee.
E. F. Gray and C. E. Abbott, attorneys for Appellants.

Statement.

In this case a temporary injunction was granted restraining the appellants from preventing extensions of appellee's telephone lines into steets not before occupied, and from preventing renewals and perpetuation of appellee's telephone lines in streets already occupied. This injunction is made perpetual by the final decree. The defendants in the case appealed to this court.

2.

Briefly put, appellee claims that the "Fremont Telephone Company" not incorporated, on December 19, 1881, under ordinance hereinafter set out, obtained consent from the mayor and council of the City of Fremont to erect a telephone line in its streets, and thereupon erected such a line, and that the appellee, a corporation, a year or two after "purchased from the 'Fremont Telephone Company' all of its property, rights, franchises and privileges in said City of Fremont," and has ever since operated the same, without objection, until shortly before commencement of this suit.

The appellants claim that the supposed consent to the "Fremont Telephone Company" was not sufficient or valid; that, even if it had been valid and sufficient to grant a right, still, such a right could not be assigned or transferred without the consent of
617 the mayor and council of the city; and that, as matter of fact, no such assignment was ever made or attempted; and that the mere fact that the appellee has occupied parts of certain streets with telephone poles and wires does not give it a right to set poles and string wires into other streets, or parts of streets, not before so occupied; nor to perpetuate forever the present occupation by renewals.

Shortly before commencement of this suit, the mayor and council of the city adopted this resolution, which plaintiff sets out in its petition, to-wit:

"Whereas, it is proper for and policy and practice of the City of Fremont, in Dodge County, Nebraska, to consent to the erection of telephone lines upon its streets, avenues and alleys, only upon proper limitations as to time, restrictions as to charge for service, conditions, reservations and provisions relating to use of streets, avenues and alleys, and relating to further and future regulations as to manner of using streets, avenues and alleys, and charges for service; and to require acceptance of such limitation, restrictions, conditions, requirements and provisions, before the erection of telephone lines upon its streets, avenues and alleys; and Whereas, Nebraska Telephone Company has erected its telephone line in the streets, avenues and alleys of said city, without such consent, and with-
618 out accepting such limitations, restrictions, conditions, requirements or provisions:

Therefore, to prevent further like trespass, to enforce compliance with such policy and practice, and to preserve such limitation of time as nature works;

Be it resolved; by the mayor and council of the City of Fremont, in Dodge County, Nebraska, that said Nebraska Telephone Company, its successors and assigns, be and hereby are forbid to and prohibited from setting any more telephone poles in the streets, avenues or alleys of said city, stringing any more wire on poles in streets, avenues or alleys of said city, making any more connections or extensions to or from streets, avenues or alleys of said city, for service or otherwise, making any extensions or addition to its telephone line or lines into or from streets, avenues or alleys of said city, repairing, replacing, or restoring any poles in streets, avenues or alleys of said city, repairing, replacing or restoring any wire upon poles in streets, avenues or alleys of said city, repairing, replacing or restoring any connections or extension to or from streets, avenues or alleys of said city for service; and such of said company's poles that become too decayed to stand, and wire that becomes broken by storms or otherwise must be immediately removed from streets, avenues and alleys of said city by said company.

The street commissioner of said city is hereby directed to enforce the prohibition of this resolution, and prevent the doing of
619 the things herein prohibited; and in case of violation of any prohibition hereof, the street commissioner of said city shall immediately, without delay or notice tear down and remove all poles set and wires strung, placed or connected in violation of the prohibitions hereof. The committee of said city on streets and sidewalks are required to see that this resolution is enforced.

Adopted January 31, 1903.

Approved,

WALLACE WILSON, *Mayor.*

[SEAL.] JOHN W. HYATT,
City Clerk.

In the face of this resolution, and, with knowledge of it the appellee erected its telephone poles and wires in a new street never before occupied with telephone poles or wires, and thereupon the city's street commissioner, as required by the resolution, removed such poles and wires, which is the gist of appellee's petition.

The affirmative allegations of the answer in the case, which are not denied by the reply, nor otherwise controverted, are as follows, to-wit:

"As to the resolution of the mayor and council of said city, set out in petition, the defendants allege that the policy and practice of said city in relation to telephone lines, long since established in said city, is correctly stated in said resolution; that 620 the facts requiring such resolution are correctly stated therein; that the purpose and object of said resolution are stated therein correctly; * * * that, on January 31, 1903, in the council chamber of said city, at the meeting of said council, the plaintiff, by its managing agent, was present, addressed the mayor and council in opposition to the adoption of said resolution, then and there heard said resolution adopted by the council of said city, and approved by its mayor and thereafter, on February 2nd and 3rd, 1903, the plaintiff, with full knowledge of said resolution, wilfully proceeded, in violation of the prohibition of said resolution, to extend its telephone line, and construct new telephone lines, and make new connections in the streets of said city; and that it was such new lines and new connections in the streets of said city that said street commissioner warned against and thereafter tore down and removed from said streets."

In that answer, among other things, "the defendants pray for judgment determining said resolution to be valid in both its prohibitions, that is to say, valid, First, in prohibiting the plaintiff from extending its telephone lines in the streets, avenues and alleys of said city, and making new connections therein, and valid, Second, 621 in prohibiting the plaintiff from perpetuating its occupancy of the streets, avenues and alleys of said city, by repairing and renewing its telephone lines and connections already erected in the streets, avenues and alleys of said city, at the time of the adoption of said resolution."

We call special attention to that resolution, to those affirmative allegations of the answer, and to those prayers of the answer; and we especially ask this court to determine and settle the two questions, each by itself, that is to say, First, is the resolution valid so far as it prohibits the plaintiff from extending its telephone lines into new streets not before occupied by it, or into the remainder of a street before only occupied for a short distance of the street? and, Second, is the resolution valid so far as it prohibits the plaintiff from renewing its telephone poles and wires in the streets already occupied, so as to perpetuate its occupancy forever?

To put the same questions in different form, if the plaintiff has any right of any character, is such right, First, anything more than a right to continue to occupy such streets and parts of streets as

before the resolution it had poles and wires erected in? and, second, is such right anything more than a right to continue to use such occupied streets or parts of steets until by the course of nature the poles and wires, as erected at the adoption of the resolution, perish by decay?

662 Notwithstanding, we failed in the district court, to get any attention to these questions; and notwithstanding that our connections urged, that if the plaintiff had any right at all to occupy the street, such right was limited to such occupation at the passage of the resolution, and it did not carry with it a right to acquire further and additional occupation of streets, nor a right to perpetuate its occupation beyond a reasonable time, to-wit, beyond the time nature would remove the occupation, were treated with silent contempt, still we believe that upon the record in this case the city is entitled to have these questions considered, and, in that belief, we make our request, for their consideration in this court.

(End of Omaha Exhibit No. 9. H. E. K.)

Mr. LAMBERT: To which the Respondent objects for the reason that the same is incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence the following portion of the Brief filed in the Supreme Court of the State of Nebraska, in the case above mentioned, being the case of the Nebraska Telephone Company, Appellee, vs. City of Fremont, et al., Appellant-, on the part of the Appellee, the said portion of the brief being as follows, found on page 19 thereof as follows: "We contend

* * * that when the grant once becomes operative, and has been accepted and acted upon, it constitutes a contract the
623 obligation of which cannot be impaired by any act of the state or any of its instrumentalities."

Mr. McHUGH: The complainant also offers in evidence a portion of the Brief in the same case as found on page 40 thereof, it being admitted that the same are parts of the Brief which was filed as stated the same being marked Omaha Exhibit No. 10, it being agreed that the reporter may substitute a correct copy thereof in place of the original.

"1. The grant by the city having been acted upon, and large sums of money having been expended upon the faith of it has become a contract, the obligation of which cannot be impaired by any act of the city, nor by any other instrumentality of the state, this being forbidden by the Constitution of the United States, as well as by that of the State of Nebraska.

2. The city can regulate the use of the streets by plaintiff, by ordinance enacted for the protection of the public use of the streets, but this is the extent of its power.

The principles underlying these propositions have been so often decided, that we need do no more than cite the following recent

well considered cases arising upon facts similar to those in the case at bar.

Northwestern Telephone Exchange Co. vs. City of Minneapolis, 81 Minn., 140; 83 N. W. Rep., 527.

624 S. c. on rehearing, 86 N. W. 69; 53 L. R. A. 175.

Duluth vs. Duluth Telephone Co., 84 Minn., 486; 87 N. W. Rep., 1127."

(End of Omaha Exhibit No. 10. H. E. K.)

Mr. LAMBERT: Objected to as incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence the opinion of the Supreme Court of the State of Nebraska filed in the case of the City of Plattsmouth, Appellant, v. Nebraska Telephone Company, Appellee, which opinion was filed January 9, 1908, it being admitted that the same is the opinion of the Supreme Court of the State of Nebraska filed in the case above as stated, it being agreed that the reporter may substitute a copy of same from Volume 80 of the Nebraska Reports beginning at page 460 and ending on page 467, same being marked Omaha Exhibit No. 11.

(Copy.)

OMAHA EXHIBIT No. 11. H. E. K.

Filed January 9, 1908.

No. 15025.

CITY OF PLATTSMOUTH, Appellant,

v.

NEBRASKA TELEPHONE COMPANY, Appellee.

1. Cities. Telephone Franchise. Use of Streets.—A city ordinance extending to a telephone company the right to use the streets, alleys and public grounds of the city in the construction, operation and maintenance of its plant or system, and which does not, in any of its provisions, indicate an attempt to exclude other like corporations or companies from a like privilege, is not the
625 grant of an exclusive right or privilege.

2. * * * The authority of a city or incorporated town or village may grant to a telephone company the use of the streets, alleys and public grounds of the municipality for constructing and maintaining a telephone system therein, such use of the streets, alleys and public grounds being for a public purpose.

3. * * * Added Burdens.—When an ordinance of a city has invited investments and expenditures, which are made in good faith and in reliance upon it, the city authorities, if the use be a public one, cannot arbitrarily impose by subsequent regulations, without necessity or the demands of public convenience, additional burdens

upon the company which are clearly beyond the reasonable exercise of the police power.

Appeal from the District Court for Cass County.

Paul Jessen, Judge. Affirmed.

H. D. Travis, for appellant.

W. W. Morsman and Mathew Gering, Contra.

DUFFIE, C.:

The plaintiff brought this action in equity for a mandatory injunction, in which alternative relief is prayed. The material allegations of the petition are the following: (1) That the City of

626 Plattsmouth has never granted defendant any lawful or sufficient franchise, nor any franchise to occupy the streets and alleys of the city; (2) that defendant has been occupying the streets and alleys of the city for more than 15 years without right or authority; (3) that defendant has erected its poles and wires in Main street, along the south side, from First to Eighth streets, and has continued the same since the year 1888; that such poles and wires are dangerous to pedestrians and to property, are old and rotten, were used by the public as hitching posts for horses, and that thereby a nuisance was created, that the poles and wires interfere with the firemen in case of fire, and that the poles are unsightly; that in November, 1899, the city, by ordinance, required the defendant to place its wires underground in Main Street, and that it failed and refused to comply with said ordinance; that in 1904 the city passed an ordinance requiring defendant to move its poles and wires from Main street to the alleys adjoining. The prayer is for an injunction against the use of the streets, alleys and public grounds of the city of Plattsmouth by the defendant, and that it be enjoined from operating its telephone system in the city; and alternatively, if the court should find that the defendant had been granted a franchise for the use of the streets, that it then be required to remove its poles and wires from Main street between First and Eighth streets to the alleys north and south of Main street.

627 The answer admits that defendant has occupied the streets of the city and carried on its business therein, as alleged, for more than 15 years; that it has continuously maintained its poles and wires in and along the south side of Main street since the year 1888; that the city passed an ordinance in 1904, as alleged in the petition, requiring the defendant to remove its poles and wires to the alleys north and south of Main street, and which, defendant alleges, affirmatively repealed all prior conflicting ordinances. For a second defense it is alleged that defendant had maintained its poles and wires in Main street in the same place for more than 15 years with knowledge and consent of the city; that in October, 1898, the city, by ordinance, granted defendant the right to occupy all the streets of the city without restriction, reserving to itself the free use of such poles for its own fire alarm wires; that immediately

after the passage of said ordinance defendant expended large sums of money in reconstructing its poles and wires in Main street; that its central office is in Main street and on the south side thereof; that Main street is 100 feet in width; that the sidewalks on each side are 20 feet from the front walls of the buildings and 160 feet apart; that there has never been on the south side of the street any building more than two stories high; that there never has been, and

there is no prospect of, any congestion of the business in said street with which the poles of defendant will interfere in any degree whatever; that the alleys north and south of Main street are only 13 feet wide; that, if defendant's poles are set therein they must be set $2\frac{1}{2}$ feet from the line to avoid projecting the cross-arms over private property; that the change will cost \$1,500, which is more than net income from the defendant's system in said city in five years; that the ordinance passed in 1904 was not passed in the interests of the public and was an abuse of municipal power; that the ordinance is unreasonable, as the removal of defendant's poles and wires will serve no public interests, and its enforcement will impair the obligation of the contract between the city and the defendant.

On the trial the district court found generally for the defendant and dismissed the plaintiff's petition. The plaintiff has appealed.

The evidence shows that in each alley north and south of Main street there is a telephone line belonging to another company on one side of each alley and an electric light line belonging to the city on the other side. It is conceded that prior to October, 1898, defendant had no franchise granted by the city, the general statute relating to cities and villages of the class to which Plattsmouth belonged being deemed sufficient; but on that date the city passed an ordinance granting certain rights and privileges to the Nebraska Telephone Company, its successors and assigns, and regulating the erection of poles and wires and protecting the same. The ordinance, No. 91, so far as material to an examination of the questions involved, is as follows:

"SECTION 1. That the Nebraska Telephone Company its successors and assigns, be and are hereby granted right of way for the erection and maintenance of poles and wires and all appurtenances thereto for the purpose of transacting a general telephone and telegraph business through, upon and over the streets, alleys and public grounds of the city of Plattsmouth, Nebraska; provided, that said company shall at all times when requested by the proper authorities permit their poles and fixtures to be used for the purpose of placing and maintaining thereon, free of charge, any wires which may be necessary for the use of the police or fire departments of the city of Plattsmouth, Nebraska; and further provided, that such poles and wires shall be erected so as not to interfere with ordinary traffic through such streets and alleys, and under the supervision of the committee on streets, alleys and bridges."

Section 2 provides for stringing the wires 20 feet above the ground, and for the temporary removal of the poles and wires in case they obstruct any vehicle or structure being moved along or

across any street or alley. Section 3 fixes the maximum rate allowed to be charged by the company, and section 4 makes it an offense to injury any poles, wires or instruments of the company. Soon after having completed the rebuilding of its system, the city passed another ordinance, of date November 27, 1899, declaring it unlawful to erect or maintain poles and overhead wires in Main street, and requiring all such wires to be placed in underground conduits; and on June 27, 1904, the city passed an ordinance requiring all poles and overhead wires to be removed from Main street between First and Eighth streets to the alleys adjacent thereto, said removal to take place by January 1, 1905, and repealing all ordinances in conflict therewith.

The defendant asserts that, having accepted the provisions of ordinance No. 91 and having expended large sums of money in reconstructing its lines in the city of Plattsmouth under the permission granted by that ordinance, it has acquired a right in the streets of the city which cannot be taken away, except upon some ground of public necessity or convenience; while, on the other hand, the city asserts that the ordinance is void. The argument upon which it attempts to maintain the invalidity of the statute is as follows: Section 15, art. iii of our constitution, prohibits the legislature from passing local or special laws granting to any corporation, association or individual any special or exclusive privilege, immunity or franchise whatever; and it is said that the legislature cannot delegate to a municipality a power which it cannot itself exercise.

It is claimed that the ordinance in question is an attempt to grant to the defendant a special privilege or franchise, and that this is beyond the power of the municipal authorities. If we should concede (which we do not) that a general law, granting to cities and towns the powers which are usually found in their charters, did not confer upon such municipalities the power to pass and enforce special ordinances suited to their local conditions, still the ordinance in question is not subject to the criticism made upon it. A special privilege in constitutional law is right, power, franchise, immunity or privilege granted to, or vested in, a person or class of persons to the exclusion of others and in derogation of common right, *Guthrie Daily Leader v. Cameron*, 3 Okla. 677, 41 Pac. 635. In *City of Elk Point v. Vaughn*, 1 Dak. 113, 46 N. W. 577, it was held that the act of congress of March 2, 1867, providing that the legislature assemblies of the several territories shall not grant any special privileges, refers to the granting of monopolies such as ferries, trade-marks, or the exclusive right to manufacture certain articles or to carry on a certain business in a particular locality to the exclusion of others, and does not include the granting of public charter to a municipal corporation. Ordinance No. 91 does not attempt to confer upon the defendant any exclusive right or franchise, and leaves it open for the city, at any time, to extend to other companies or corporations the same privileges awarded to the defendant. The contention, therefore, that Ordinance No. 91 is void and confers no right upon the defendant cannot be sustained.

Subdivision XII, sec. 69 of plaintiff's charter (Comp. St. 1905, ch.

14, art. 1) is in the following words: "To make all such ordinances by-laws, rules, regulations, resolutions, not inconsistent with laws of the state as may be expedient, in addition to the special powers in this charter granted, maintaining the peace, good government, and welfare of the corporation, and its trade, commerce, and manufactures." Subdivision 24 of said section authorizes the city authorities to regulate the streets, "lamp-posts, awning posts, and all other structures projecting upon or over and adjoining, and all other excavations through and under the sidewalks in the said city or village." Subdivision 28 empowers the city or village "to open, create, widen, or extend any street, avenue, alley, or lane, or annul, vacate, or discontinue the same whenever deemed expedient for the public good." The use of the telegraph and telephone is so far a public convenience and necessity that in some states property may be condemned therefor under the power of eminent domain. *State v.*

American & European News Co., 43 N. J. Law, 381; *Pierce v. Drew*, 136 Mass. 75; *Pensacola T. Co. v. Western Union T. Co.*, 96 U. S. 1. It is therefore evident that the use of streets

for telephone or telegraph purposes is a use for public purposes against which no objection can be made. As said in *Hobbs v. Long Distance T. & T. Co.*, 147 Ala. 393, 7 L. R. A. (n. s.) 87: "Since the days of the Cæsars, public highways have received the careful attention of all governments, not only for the purpose of providing ways by which armies could be moved and the people travel, but for the purpose of opening up avenues of communication by which reports could be speedily brought to the capital, and the interchange of commerce promoted. The laws of congress have provided for post roads, etc., before the telephone was known, provided for the same privileges for telegraph companies, as were given to railways in using the public lands, and, in later days, it has developed the exceedingly valuable system of 'post routes' and free mail delivery along the public roads of the country, so that not the least important function of the public roads of the country is the transmission of messages from place to place." The people of the city of Plattsmouth are not alone interested in the telephone system of that city, but every other community in the state with which communication is made is equally interested, and the state itself has recognized the utility and necessity of this method of communicating news by granting a

right of way for the building of such lines over the public highways of the state. Comp. St. 1905 89a sec. 14. Under the general power given to the plaintiff by its charter and the general control which it exercises over the streets and public grounds of the city, its right to extend to the defendant the privilege of occupying its streets and public grounds cannot be questioned. *Nebraska T. Co. vs. City of Fremont*, 72 Neb. 25.

The only question remaining is whether the public necessity or convenience requires that its wires in Main street should be placed in underground conduits or removed to the alleys north and south of said street between First and Eighth streets. That the rights of the defendant in the streets of the city must yield to public necessity or convenience is beyond question or dispute; but, having acquired a

right in the streets, and having made expenditures on the strength of the grant extended by the city, the authorities are quite uniform that this right cannot be taken away in an arbitrary manner and without reasonable cause. In *Northwestern T. E. Co. v. City of Minneapolis*, 81 Minn., 140, it is said: "When such an ordinance has invited investments and expenditures made in good faith and in reliance upon it, the city authorities cannot arbitrarily impose by subsequent regulations, without necessity, or the demands of the public convenience, additional burdens upon the company, which are clearly beyond the reasonable exercise of the police power." In a body of the opinion it said: "An ordinance of a municipality, surrendering a part of its powers to a corporation to secure and encourage works of improvement, which requires the outlay of money and labor, to subserve the public interests of its citizens, when accepted and acted upon, becomes/a contract between the city and the corporation which relied upon it, and the grantee cannot be arbitrarily deprived of the rights thus secured." In support of this principle authorities from the states of Ohio, Louisiana, Iowa, Massachusetts, Wisconsin, and numerous federal decisions are cited. That the city council may make reasonable regulations relating to the maintenance and repair of defendant's plant is not open to argument; but such regulation is not to be exercised at mere whim and caprice. It must be proportionate to, and commensurate with, the public necessity for the protection and promotion of the public health, safety, necessity or convenience. *City of Burlington v. Burlington Street R. Co.*, 49 Ia. 144. The application of the police power cannot be extended by the authority which is entrusted with such application to an arbitrary misuse of private rights. That the city may order the removal of poles which endanger the citizens because of a rotten condition, and protect its inhabitants against any conduct of the business which endangers the public health or safety, is not a question open to dispute; but nothing of the kind appears in the record before us. As before stated, Main street is 100 feet in width. There is no evidence of a congested condition of the street or of any necessity from other causes for removing the defendant's poles.

So far as the record discloses, the action of the city council is arbitrary in its nature and wholly unsupported by any reasonable cause. Such being the case, we think the district court was right in refusing the injunction, and we recommend an affirmance of its judgment.

Epperson and Good, CC., concur.

By the COURT: For the reasons stated in the foregoing opinion, the judgment of the district court is affirmed.

(End of Omaha Exhibit No. 11, H. E. K.)

Mr. LAMBERT: Same objection, incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence a portion of the Brief filed in the last mentioned case in the Supreme Court of the State of Nebraska, in the case of the City of Plattsmouth, Appel-

lant, vs. Nebraska Telephone Company, Appellee, said portion being offered on the part of the said Appellee, and Brief thereof referred to beginning on page 19 of the said Brief the same being marked by the reporter Omaha Exhibit No. 12 it being agreed that the reporter may substitute a correct copy.

Copy.

OMAHA EXHIBIT No. 12. H. E. K.

"Five.—Independently of those provisions, it is quite clear that the municipal authorities of the city possessed no such power as is supposed by the respondents. Such corporations are usually invested with power to lay out, open, alter, repair and mend streets within the corporate limits; but the rule is well settled that by virtue of those powers, without more, they cannot grant to an association of persons the right to construct and maintain for a term of years a railway in one of the streets of the municipality for the transportation of passengers for private gain, and that an ordinance or resolution of the authorities granting such a right is void. *Davis vs. Mayer*, N. Y., 14 N. Y., 514.

But defendant claims a perpetual franchise in the streets of Platts-mouth upon the very opposite view of the law." * * * "The case of *The Nebraska Telephone Co. vs. City of Fremont*, 99 N. W., 811, will undoubtedly be cited by the defendant and the doctrine of stare decisis invoked; but this case is not a statement of the law as it existed in Nebraska prior to the date of this decision. In this case the court ignores the law that the legislature is supreme and that a municipality is only the agent of the state, ignores the law which undoubtedly is and has been since the organization of the state; that before a municipality can grant a franchise or any privilege which is legal under the statute and the constitution that the power must first have been conferred upon the city by the state. The Court in this case nowhere places its finger on the statute which grants this power to the City of Fremont. The whole case is a piece of bad judicial legislation. Mr. Commissioner Ames contents himself with the statement of the conclusion in these words: 'There is no question as to the authority of the city to grant a license or privilege as by these proceedings it purported to do.' The very fact that he failed to find the statute and to reason this point shows that the conclusion is founded on nothing."

(End of Exhibit No. 12 H. E. K.)

Mr. LAMBERT: Same objection, incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence pages 10 to 29 of the Brief on behalf of the Nebraska Telephone Company, Appellee in the last mentioned case, said Brief being filed in the Supreme Court of the state of Nebraska in said case of the City of Fremont, Appellant, vs. Nebraska Telephone Company, Appellee, it

639 being admitted that the Brief filed was a portion offered in the said case as stated, the portion offered thereof in evidence, being marked Omaha Exhibit No. 13, it being agreed that the reporter may substitute a correct copy thereof.

Copy.

OMAHA EXHIBIT No. 13. H. E. K.

The city has full power to grant the right to use the streets for poles and wires and the right granted by the ordinance of October 19, 1898, is inviolable, except that the exercise of it may be regulated in the interests of the public, under the police power.

An alternative argument for the other side is, that the legislature had not effectively delegated to the city the power to grant the use of the streets, and therefore the City could not grant the franchise, although it had attempted to do so by the ordinance of October 19, 1898; that such a grant of power can only be made by express enactment and in specific and direct terms, and that the law or charter from which the city derives all of its powers did not sufficiently grant the power.

If the argument is sound every telephone pole within the corporate limits of every municipal corporation in Nebraska is a nuisance, which may be abated upon complaint of any person who sees fit to put the criminal law in motion. The legislature of this state has never given to any city, in specific and direct terms, power to
640 grant franchises to telephone companies.

In metropolitan cities, of which Omaha is the only one, the power is derived from the law of 1905, chapter 14, Sections 16 and 134, and those provisions which confer upon the city general power over the streets and alleys. In none of these provisions is the power granted in direct terms and the power was never, at any prior date, granted in more explicit terms.

In cities of the first class having more than 40,000 population but less than 100,000 population, of which Lincoln is the only one in the state, the power is derived from Section 7841, Cobbey's Ann. Statutes, 1903, and Section 11 of Chapter 16, Acts of 1905, page 213. None of these provisions grant the power in specific terms nor has the power ever been more directly granted.

In cities of the first class, having more than 25,000 population and less than 40,000 population, of which South Omaha is the only one in the state, the power is derived from Cobbey's Statutes, 1903, Sec. 1808 and 8057, neither of which grants the power in direct terms and the power has never been more directly granted.

We concede, of course, the power must be derived from the state by express statute; but this does not mean that the delegation of power by the state to the city must be specific as to the particular use of the streets, or that it must be in direct terms. A general statute may be as express and effective to invest the city
641 with power as one which specifies a particular use of the streets. The question is: Do the powers delegated to the city over

the streets and alleys, when all are constructed together, embrace the power to grant the use of the streets for such purpose?

In the case at the bar it is alleged in the petition that the plaintiff is a city of more than 5,000 and less than 7,000 population, and it is now contended for plaintiff city that it was governed in 1898, when the right to occupy the streets was granted, by the act of 1879, entitled "An Act to provide for the Organization, Government and Powers of Cities and Villages." Laws, 1879, Page 193.

This contention is based on the opinion of this court in the case of the City of Plattsmouth vs. Murphy, 105 N. W. 293, where it was so decided. In 1879, we believe, there was not a telephone in the state of Nebraska, and, of course, the use of the streets for telephone purposes was not specifically mentioned in that act; but, by Section 69, Subdivision 12, of that Act, the cities governed by it were given power:

"To make all ordinances, by-laws, rules, regulations, * * * not inconsistent with laws of the state, as may be expedient, * * * maintaining the * * * welfare of the corporation, and its trade, commerce, and manufactories * * * *"

And, by subdivision 24 of the same section, such cities were given power:

"To regulate the streets, * * * lamp posts, awning posts, and all other structures projecting upon or over and adjoining, and all other excavations through and under the sidewalks in the said city or village."

And, by subdivision 28 of the same Section, power was given:

"To create, open, widen or extend any street, avenue, alley or lane, or annul, vacate or discontinue the same whenever deemed expedient for the public good, * * *"

The powers here given are not only expressly given, but they are given in the broadest and most comprehensive language that could have been selected. It is power to promote the welfare of the city and the trade, commerce and manufactures of its people—power to regulate the use of the streets and to annul, vacate, or discontinue streets and alleys, "whenever deemed expedient for the public good." This power to vacate clearly embraces the power to grant any use whatever, deemed expedient for the public good, if it be not inconsistent with the laws of the state. The only possible object in granting such powers was to vest in the city the completest possible control over the streets, to promote the "public good". Power to annul or vacate and discontinue a street entirely, thereby excluding the public necessarily embraces power to grant the use of a telephone company, which is neither more or less than a limited exclusion of the general public and partial vacation or annulment of the street, for the public good. The greater includes the lesser power.

Of course the power must be exercised for the "public good." That is fundamental; but there is no other limitation, excepting that it can not contravene the laws of the state. The granting of a franchise for the exclusive use of a portion of the streets by a tele-

phone company, in order to provide, by such use, the all but indispensable service to the public and its business, is clearly within such power.

In considering the question it is important to keep constantly in mind that the use is a public use. There is plain distinction between granting the use of public ways to a quasi-public corporation for the public benefit, and granting the use of such ways to an individual advantage, in which the public has no concern. When the use is a public use the grant is made to secure benefits and advantages to the public, and it is for the purpose of securing such benefits and advantages that the title to, and control of, the streets, 644 are vested in the city. The title to, and all of the powers of control over the streets, is vested in the city in trust for the benefit of the public, to be exercised reasonably and in such manner as will promote the public good. This seems to have been overlooked by the other side.

It is clear these provisions confer upon the city ample power to grant the franchise or use in this case. The general power of control over the streets and power to make all such ordinances and regulations, not inconsistent with the laws of the state, as may be expedient to maintain the welfare of the city, its trade, commerce and manufactures, and regulate the erection of constructsures and excavations in the streets; to create, open, widen, extend to annul, vacate, or discontinue any street, must embrace a power to grant the use of the strteet for the erection and maintenance of poles and wires of a telephone company, if force is given to the language employed by, and the obvious purpose of, the legislature. Power to control, generally, the streets, title to which is vested in the city, for the benefit of the public, is, essentially, power to grant such rights and privileges as will inure to the benefit of the public and which the public interest demands. The very purpose in granting such broad powers to the municipality is to enable the governing body to prescribe the uses that may be made of the streets in 645 order to promote the comfort, convenience, and general welfare of the public, not inconsistent with the laws of the state.

The streets of a city are designed to afford the means of communication and traffic between its different parts, not, for all time, by the method in vogue when streets were first known; but by all methods which are consistent with the general purpose and which advancing civilization and modern methods of business make necessary to the comfort, convenience, and welfare of the public. The power to make ordinances deemed to be expedient in maintaining the welfare of the city and the business of its inhabitants is a power to decide what uses of the streets are consistent with their general purpose and necessary for the public convenience and prosperity, and to grant the use, which is not for the sole benefit of the grantee, as is often erroneously assumed, but to secure benefits and advantages to the public due to progress, development, and invention.

The streets of a city are required by the public to facilitate, not actual travel or locomotion alone, but every method of communication, social intercourse, the performance of public duties, to promote

trade, and to promote and expedite the successful prosecution of all the multiform relations between persons in one part of the city and those of another. If a person in one part of the city wishes to

646 communicate with a person in another part he is entitled to the use of the street by any method — vogue. He may walk,

or he may go horseback, or in a wagon drawn by horses, or oxen, or in a street car, or in an automobile. In a vast number of daily transactions the modern method is to make the telephone poles and wires the means of communication, by carrying on an instantaneous conversation with as much satisfaction and certainty as if the persons were face to face, thus dispensing with other and slower methods of communication more cumbersome to the streets. This modern method is often an incalculable advantage over all other methods of intra-city communication. It is the greatest time-saving device that has ever been given to the public. There is nothing that is at all comparable with it in pecuniary value, where time is the equivalent of money in business transactions. It is as indispensable in the home and in the business place as the United States mail service. Nothing contributes more certainly to the comfort, convenience, prosperity, and welfare of the people and their business. It is not only of incalculable direct benefit to the public, but to the extent of its use the streets are relieved of pedestrians, horses and vehicles of all kinds. No sane person would, at this day, question that the service

is for the public benefit. It is generally held that this use of
647 the streets is so far within the original and general purpose for which streets and public ways are established as that

abutting owners are not entitled to compensation on the ground that their interest in the streets is subjected thereby to an additional servitude, and that this method of instantaneous communication, without resorting to slower methods of actually traveling through the streets, is merely the means of making the streets serve one of the chief purposes for which they are provided, without interfering, in any appreciable degree, with their free use by all other methods, and, indeed, contributing to prevent, instead of producing, obstruction. That providing the people with such a service by granting the use of the streets in maintaining the welfare of the people, and their trade and commerce, within the provisions of the law governing the plaintiff city, can not be seriously questioned.

In his work on municipal corporations, speaking of the power to grant the use of the streets to a street railway company, which, so far as this question is concerned, is not different from the question in the case at bar, Judge Dillon says, (Sec. 575):

“* * * The ordinary powers of municipal corporations are usually ample enough, in the absence of express legislation on the subject, to authorize them to permit, or refuse to permit, the use of streets within their limits for such purposes.”

648 In *The Incorporated Town of Spencer vs. Andrew*, 82 Ia. 14, 47, N. W. 1007, the constituent statute gave the governing body power to “provide for the measuring or weighing of hay, coal, or other articles for sale.” The town council gave Andrew permission to place his scale in the street, but afterwards undertook to withdraw

the permission, notwithstanding Anderson had expended money in consequence of the permission granted to him. It was claimed by the town that the permission was granted without power, but the Supreme Court of that State said in reply to that contention—"Our conclusion is that the town of Spencer did have power to grant the permission it did," and the reason was given in the following language "the italics are mine):

"If it may be said that this power is not delegated by statute, it is certainly included in the trust relation and purpose under which cities themselves hold title to, and exercise control over, the public streets and alleys."

In that case there was nothing whatever in the statute from which to derive the power but the general power of the town to control and supervise the use of the streets, the title to and power to control which, was vested in the town in trust, for the public benefit, for it cannot be seriously contended that the power to grant the use of the streets was found in the express power "to provide for measuring or weighing hay, coal or any other article of sale."

In the case at bar the state had, in addition to the general power to pass ordinances, by-laws and rules to promote the general welfare and business of the people of the city, granted the power to "annul, vacate, or discontinue any street" whenever deemed expedient for the public good. Surely it cannot be doubted this was designed to vest in the city the most unlimited power over the streets "for the public good."

In *Hershfield vs. Telephone Company*, 12 Mont., 102, the consistent statute gave to a city power to "license, tax and regulate" telephone companies, and it was held that this power carried with it the power to grant the use of the streets for the structures necessary to the prosecution of the business.

In *State ex rel. vs. Murphy*, 134 Mo. 548; 31 S. W. 784, the charter of the city of St. Louis gave the city power to "establish, open, and vacate all streets, public grounds and squares and regulate the use thereof; to pass all such ordinances, not inconsistent with the provisions of the charter or laws of the state, as may be expedient in maintaining the peace, good government, health and welfare of the city, its trade, commerce and manufactures." Not a word was included about telephone or other specific uses.

650 It is said in the opinion that the power "to regulate" the use of the streets is a very comprehensive power, and that the power thus delegated gave the city power to grant the use of the streets. The opinion contains the following language:

"Under the power delegated, it cannot be questioned that the municipal authorities can permit the use of the surface of the streets for the erection of telegraph and telephone poles and the laying of railroad tracks; the space above the surface for stringing electric wires, for the transmission of messages and creation of light, and may also permit the laying of water and gas pipes and sewer beneath the surface. *Julia Building Association vs. Bell Telephone Co.* 88 Mo. 258; *City of St. Louis vs. Bell Telephone Company*, 96

N. W. 629; Ferranbach vs. Turner, 86 Mo. 416; Scopp vs. City of St. Louis, 117 Mo. 136.

These uses are all of a public nature and are not inconsistent with the public uses to which the streets were dedicated. Under its power to regulate the use of the streets the city has authority to authorize corporations and persons, for the purpose of serving the public, to string telegraph or telephone or electric wires upon poles—
 651 above the surface or through conduits beneath the surface of the streets, provided such structures and mechanical appliances do not materially interfere with the ordinary use of the streets and public travel thereon. But the city has no power, under this or any other provision of its charter, to authorize such a use of the street, though for a public purpose, as will destroy its usefulness as a public thoroughfare."

The granting ordinance was, in that case, held to be ultra vires, but on different grounds. The constituent statute in that case, delegating the power to the municipality, was not broader than the provisions of the constituent statute in the case at bar, already quoted.

In Ferranbach vs. Turner, 86 N. W. 416, it is said:

"The power to regulate the use of the streets is not limited to a mere right of way, but extends to all beneficial uses which the public good may require from time to time, as, for laying gas, water, and sewer pipes and the like. New uses are constantly arising. All these uses and any others may be made of the streets without the consent of the lot owners."

In Pike's Peak Power Company vs. City of Colorado Springs, 44 C. C. A. 333-342, this language was used:

652 "Under the statutes of Colorado, this city was empowered to regulate the use of its streets, to provide for the lighting of same, to pass all ordinances and to make all rules, and regulations, proper or necessary to exercise these powers, * * *. Under these powers it had ample authority to grant the right and privilege of constructing power houses to generate electricity in suitable places on its public grounds, of laying conduits, or of erecting wires on its streets, and of stringing wires in the conduits and on the poles, to transmit the electrical power, in such a way that these conduits, poles, and wires would not materially interfere with the ordinary uses of the streets and grounds by the public, and subject to the police power of the city, as provided by the ordinances of September 8, 1899." (Citations.)

In Gregston vs. City of Chicago, 34 N. E. 426, the charter gave to the city power "to regulate the placing or building of vaults under streets, alleys, and sidewalks," and it was held that this grant vested in the city power to grant the privilege to thus use streets and alleys, and, also, that where the privilege had been granted, accepted, and acted upon by the grantee, the grant became
 653 a "contract, irrevocable by the city so long as its revocation is not demanded by the public interest or inconvenience." It was further said in the opinion in that case:

"It is the general doctrine that municipalities, under the power of exclusive control of their streets, may allow any use of them

consistent with the public objects for which they are held." (Citations.)

A grant of power, such as we have in the case at bar, to make all ordinances, and regulations, not inconsistent with laws of the state, deemed expedient for maintaining the welfare of the municipality and the trade, commerce, and manufactures of its people; to regulate the placing of structures upon, over, and in the streets and sidewalks; to create, open, widen or extend any street, avenues, alley or lane, and to annul, vacate, or discontinue the same, whenever deemed expedient for the public good, is a comprehensive grant of power to be exercised in the interest of the public, to secure for the public the benefit of such new uses and conveniences as could not be foreseen and enumerated and as may from time to time come into vogue and be of public advantage. The object in granting such powers to a municipality is to enable the municipality to secure advantages and benefits to the city itself as a corporate entity and to its inhabitants. Such a grant of power must of necessity be interpreted with reference to the object which the legislature sought to accomplish in delegating the power and with a view to promoting that object. In the case at bar it is clear as anything can be made that the governing body — with authority in its own discretion, to provide for any use of the streets which the public good may demand.

III.

The grant to defendant, by the ordinance of October 19, 1898, is an inviolable contract, under the contract clause of the constitutions of the state and of the United States.

There was no fact proven to authorize the exercise of the police power, and the ordinance requiring poles to be removed from Main street was not adopted in the exercise of that power.

It is not the slightest importance whether we call the right granted by the ordinance of October 19, 1898, to occupy the streets, a franchise or license, or by some other name. It is a property right—an easement in real estate, and the grant was perpetual and of all streets. Such rights are now, generally, *designed*, as franchises, by the courts and in legislation; but by whatever name the right may be *designed* it has been universally held that the acceptance of such a grant creates a contract, the obligation of which cannot be impaired.

655 In Board, etc. vs. East Tenn. Tel. Co. 53 C. C. A. 132; 115 Fed. 304, it is said:

"The consent to the occupancy of the streets by the poles and wires of the telephone company, for the purpose of maintaining a public telephone system, was the grant of an easement in the streets and the conveyance of an estate or property interest, which, being in a large sense the exercise of a proprietary or a contractual right, rather than legislative, was irrevocable, after acceptance, unless the power to alter or revoke was reversed. This principle has too many times been declared and applied by this court to require further elaboration." (Citations.)

In *North-Western Telephone Exchange Company vs. Minneapolis*, 81 Minnesota, 140; 83 N. W. 527, it is said (83 N. W. p. 529):

"An ordinance of a municipality, surrendering a part of its powers to a corporation to secure and encourage works of improvement, which require the outlay of money and labor, to subserve the public interest of its citizens, when accepted and acted upon, becomes a contract between the city and corporation who relied upon it, and the grantee can not be arbitrarily deprived of the rights thus secured. They are protected by the organic law which forbids the impairment of contracts or interference with vested
656 rights without due process of law." (Numerous citations.)

It is useless to extend the argument, or to multiply citations on this point. There is no question which admits of discussion at the present time.

The police power is not a power to be arbitrarily exercised without reason and without necessity in the interest of the public. Vested rights cannot be destroyed under the pretense of exercising this power. The defendant freely admits that its right to occupy the streets is subject to this power; but the ordinance passed by the city requiring the removal of the poles from Main street was not an exercise of that power. No facts were proven which required the defendant to surrender its vested right to occupy the street, in order that the public might enjoy its rights. If such a surrender was imperatively demanded by the public necessity—in order that the public might have the full enjoyment of its superior rights, the right of the defendant would certainly have to yield; but nothing was shown to call forth the exercise of the police power.

It is said in the argument for the other side (p. 34): "Mr. Lane admits that these poles are worthless for new construction. He says the life of a pole is from seven to twelve years. He says the plant was rebuilt in 1897, thus the poles are ten years old and in
657 fact are now unsafe and dangerous. And our cause of action is admitted so far as police control is concerned. Mr. Lane admits just what we allege, i. e., that the poles are old, worthless, useless and dangerous." But the witness did not make any statement that the poles were not amply sufficient and safe, nor was there any evidence tending to show that they were not. The statement by counsel is a plain exaggeration. Mr. Lane said the plant was rebuilt immediately after the passage of the ordinance of October 19, 1898 (Bill of Exceptions, p. 20). He thought this was in 1897; but it is obvious he was mistaken as to the date. He also said that the poles and wires would be a total loss if the defendant was compelled to remove them, which is far from justifying the statement of counsel that he said they were "old, worthless, useless and dangerous."

If they were so it could have been easily proven by numerous witnesses. And "chief of police" testified, in response to a question put by counsel for the other side, that only the six poles which he described were "out of line or in bad condition." (Bill of Exceptions p. 4.) These poles were east of Fourth street—east of the

business houses, and were lighter poles than those west of Fourth Street because they carried a less number of wires.

But if the poles were in fact dangerous the remedy was not to forfeit, by an arbitrary ordinance, defendant's vested right to occupy the street.

Nebraska Tel. Co. vs. City of Fremont, 88 N. W., 811.

The remedy was to require the poles to be renewed, which the city never so much as suggested as being necessary.

In truth, however, there was no showing of necessity for renewal of any of the poles. The evidence upon the whole subject was exceedingly puerile. The law is perfectly well settled. The police power does not extend to any interference whatever, with the vested right of the defendant to occupy the street, which is not based upon serious obstruction of the public in the exercise of its right to make other use of the street.

In N. W. Tel. Exchange Co. vs. Minneapolis, 81 Minn. 140; 83 N. W. 527, the city had power, by its charter, "to regulate and control, or prohibit, the placing of poles and suspending of electric or other wires along or across the streets of said city, and to require any or all already placed or suspended wires, either in limited districts or throughout the entire city, to be removed or to be replaced in such a manner as it may designate beneath the surface of the street or sidewalk." The city had, in that case, undertaken

to coerce the removal of poles and placing of wires underground in widely extended districts and the contention of the company was, that the requirement extended to such sparsely settled districts of the city as that the expense of compliance was unduly burdensome, unnecessary in the public interest, and unreasonable and arbitrary. It was said by the court in that case, sustaining the contention of the company:

"But this extensive power of regulation is not to be exercised at mere whim or caprice. It should be appropriate to, and commensurate with, the public necessity, for the protection and promotion of public morals, health, safety, necessity, or convenience. (Citations); and the application of the police power cannot be extended, by the authority which is intrusted with such application, to an arbitrary misuse of private rights. Any such unwarranted exercise of authority is unconstitutional and void. (Citations) Recently the subject of municipal control over the erection and maintenance of poles and electric wires in the streets of cities has received particular attention from the courts, and it has been held that an electric company, which has been granted, by the local authorities, the right to use streets, and has constructed its line in compliance with, and in reliance upon, the terms and conditions of such grant, cannot be made the subject of new conditions, aside from what may, necessarily, be required of it by the city in proper exercise of the police power and the control and regulation of the streets. (Citations.) And in the same case, on rehearing, (86 N. W., 69-74):

"We hold that the only power delegated by the state to the

city, under any of the charter provisions referred to (partly quoted above), is the power of regulation, and necessary control incident to such power. We held in the former opinion, and now hold, that the only contract entered into by the city with the defendant was with reference to the manner and method of placing its poles and wires. Such contract was within the police power of the city, and, the defendant having acted upon the contract by the ordinance of 1883 as to how it should place its poles and wires, the city cannot, without reasonable cause, in the exercise of its power of regulation, revoke its contract as to such matters, and order a different arrangement. The power of regulation, or the police power, as there designated, belonged to the state, and was delegated to the city in its charter; and we think that the charter provisions referred to fully recognize its beneficent authority which should be exercised in reason and for the best interest and welfare of the municipality, and secures all that is essential to a proper and reasonable control of the plaintiff's business. If the claims of the city are well founded, upon the issues raised by the demurrer, it can grant a

661 right today, and deprive the party to whom it is granted of such right tomorrow. If it can confer the privilege upon the plaintiff of placing overhead wires on the streets, and immediately thereafter compel the plaintiff to replace the same in subsurface conduits in rural neighborhoods, where there is no reason or necessity for such change, which purpose is admitted by the demurrer in this case, it might immediately thereafter compel the removal of the wires so placed in subsurface conduits. Nor is such a result impossible of conjecture. Oscillations of power, in local government, do not always vibrate from the same center, for history is full of illustrations to show that the guardians of the people may become their oppressors, through injurious monopolies that deprive the people of their privileges. The safeguards of the constitution are the ultimate refuge from such usurpations, and it cannot be believed, when we consider the extreme and justifiable jealousy which has existed on the part of the law makers to guard against the abuses of power, by doubtful terms, an arbitrary right upon any municipality in this state unreasonably to deprive its citizens of the benefits of progress or to grant monopolies."

An examination of the numerous cases recently decided in the courts, involving controversies between the municipalities and telephone companies, will disclose the fact that in almost every instance a rival telephone company has entered the field previously
662 occupied by but one company. However honest and sincere the motives of the public officers may have been in these cases, it is nevertheless true that the extraordinary contentions and abuses of power by municipal corporations have been instigated by these rival companies, who in some manner exercise their influence to induce public officers to abuse their powers under the claim that they are exercising them.

See also:

Michigan Telephone Co. vs. City of St. Joseph, 121 Mich., 502 N. W., 383.

Michigan Telephone Co. vs. City of Benton Harbor, 121 Mich., 512, 80 N. W., 386.

City of Duluth vs. Duluth Telephone Co., 84 Minn., 486; 87 N. W., 1127.

MATHEW GERING,
W. W. MORSMAN.

(End of Omaha Exhibit No. 13. H. E. K.)

Mr. LAMBERT: Same objection, incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence the opinion of the Supreme Court of the State of Nebraska, filed December 18, 1907, in the case of State, Ex Rel. James L. Caldwell, Appellant vs. Lincoln Street Railway Company, et al., Appellees, it being admitted that the opinion offered is the opinion 663 filed as stated, by the Supreme Court of the state of Nebraska in the said case, it being agreed that the reporter may copy the same from Volume 80 of the Nebraska Reports beginning at page 333 and ending on page 352, the same being marked by the reporter as Omaha Exhibit No. 14.

Copy.

OMAHA EXHIBIT No. 14. H. E. K.

Filed December 18, 1907.

No. 15063.

STATE ex Rel. JAMES L. CALDWELL, Appellant,
vs.

LINCOLN STREET RAILWAY COMPANY et al., Appellees.

1. Street Railways: Charter. The charter of a street railway company organized for the purpose of constructing a system of lines in a city of this state, under act of February 15, 1877 (laws 1877, p. 135), must fix the termini of the road, and state the street or streets through which it is proposed to construct and operate the same.

2. —: Use of streets: Submission to Electors. The consent of a majority of the electors of the city to use and occupation of the streets over which the proposed road is to be constructed must be obtained before construction is commenced; such consent to be given or withheld at an election called for that purpose.

3. —: —. The consent of the electors to the occupation of all the streets of a city by a street railway company, where no 664 termini are mentioned in the notice of the election, carries with it no right to the use of any street which is not used for the construction of the road within a reasonable time thereafter. To hold that such blanket consent, where no termini or route is submitted to the electors, confers on the company the right to the use and

occupation of any of the streets which it might at any time thereafter select as best suited to its interest would be awarding to private corporation a power which the people, by their constitution, have withheld from the legislature of the state and from the municipal authorities where the streets are located.

4. Quo Warranto: Proceedings Against Corporation. An information in the nature of a quo warranto filed against a corporation by its corporate name admits the existence of the corporation. If the charge be that the corporation is exercising powers not given by its charter, the action proceeds against the corporation to oust it from the use of the usurped power; but, where it is claimed that corporate powers are being usurped by a body which has no corporate existence, then the action must be against the individuals who are usurping corporate rights.

5. Estoppel: Laches. The courts, in a proper case, will apply the doctrine of laches to a case in which the state is party plaintiff.

665 The state, like individuals, may be estopped by its acts or laches, and should not be allowed to oust a corporation of its rights and franchises where, for a long series of years, it has stood silent and seen the corporation expend large sums in the acquisition of property and improvements made thereon under a claimed right so to do under its charter.

6. Judgment: Res Judicata. The City of Lincoln brought an action against a street car company to oust it from the possession of certain streets in which its tracks were laid, alleging that its only right in the streets was derived from the purchase of the property and franchises of another company that had obtained the consent of the electors of the city to the use of its streets for railway purposes, that such consent was not transferrable, and that the tracks of the company were an obstruction in the streets and constituted a public nuisance. On demurrer to this petition judgment went in favor of the defendant which judgment is still in full force and effect. Held, That if it were conceded that the city represented the state in such action, and that the state was bound by the judgment to the same extent as the city, still the force of the judgment as a bar or estoppel in subsequent action brought by the state could extend no further than to define the rights of the company in the streets then occupied by the company to the use of other streets not being
666 in issue.

Appeal from the District Court for Lancaster County.

Lincoln Frost, Judge. Reversed with directions.

F. M. Tyrrell, Charles O. Whedon and J. M. Stewart, for appellant.

Clark & Allen, contra.

DUFFIE, C.:

Section 1, art. XI^b of our present constitution, adopted in 1875, is as follows: "No corporation shall be created by special law,
* * * but the legislature shall provide by general laws for the

organization of all corporations hereafter to be created. All general laws passed pursuant to this section may be altered from time to time, or repealed." Section 2 of the article is in the following words: "No such general law shall be passed by the legislature granting the right to construct and operate a street railroad within any city, town, or incorporated village, without first requiring the consent of a majority of the electors thereof."

At a session of the legislature held in 1877 (laws 1877 p. 135) an act was passed relating to the formation of street railway companies. The act, so far as necessary to an understanding of this case, is as follows: SECTION 1. "Any number of persons may be associated and incorporated under the general laws of this state providing for the creation of corporations for the purpose of constructing and operating a street railroad within any of the
667 cities of this state, upon procuring the consent of a majority of the electors of any such city as hereinafter provided."

SECTION 2. "Every such corporation, previous to the commencement of any business except its own organization, must adopt articles of incorporation and have them recorded in the office of the county clerk of the county in which the city within which it is proposed to construct and operate such street railroad is situated, and must procure the consent of a majority of the electors of such a city as herein provided." SECTION 3. "The articles of incorporation must fix the termini of such street railroad, and state the street or streets through which it is proposed to construct and operate the same." Section 4 provides for obtaining the consent of a majority of the electors of the city by submitting the question to the electors at an election to be held for that purpose, and requiring ten days' notice by publication, which notice shall state the termini of such proposed street railroad, and the street or streets through which it is proposed to construct and operate the same. Section 5 provides for the holding of such election in the same manner and at the same places as the general city election, and that, if a majority of the votes cast shall be in
668 favor of the construction and operation of such proposed street railroad, the council shall cause the city clerk to make

out a certificate of the result, stating that the consent of a majority of the electors has been given to the construction and operation of such street railway, which certificate shall be delivered to the chief officer of the railroad company, who shall cause the same to be recorded in the office of the county clerk where the articles of association of such street railway company are recorded, and in the same book, and such certificate shall be prima facie evidence of the facts stated therein and thereupon such street railroad company shall be authorized to proceed and construct and operate such street railroad, as described in its articles of association, or any portion thereof, subject to such rules and regulations as may be established by ordinances of the city.

On March 9, 1885, articles of incorporation of the Lincoln Street Railway Company were filed and recorded in the office of the county clerk of Lancaster county, which articles provided for certain termini of the railway, and the streets through which it was proposed to construct the same. The streets mentioned in the articles are from

First to Twenty-seventh streets, both inclusive, running north and south through the city, and from A to W streets running east and west, and other streets, which, as we understand, included all the then established streets of the city. The articles also provided
669 for termini of the company "at such other points within five miles of the corporate limits of the city of Lincoln as the company may see fit to build to." An election was thereafter held, the notice of which described the streets of the city through which it was proposed to construct the road as described in the articles of incorporation, but which omitted to give the termini of the proposed road, and a certificate was duly issued to the street railway company certifying that a majority of votes cast were in favor of the proposition. Sometime in January, 1890, the Lincoln Electric Railway Company was incorporated and filed its articles in the office of the county clerk of Lancaster county. The third paragraph of these articles, after designating certain termini of the lines of the company within the corporate limits of the city, contains a clause providing for other termini "at such other points in the vicinity of Lincoln as it may be advisable to select for such termini lines," and in the same paragraph is a provision for constructing its tracks in all the streets of the city then established, running both east and west and north and south through the city. July 1, 1877, the Standard Street Railway Company was incorporated for the purpose of constructing a street railway in the city of Lincoln. The third
670 article provides as follows: "The termini of the lines of such Company are fixed at or near the several railway depots in the city of Lincoln, and at or near University Place, and at such other points in the city of Lincoln and vicinity for a radius of five miles outside of the limits of said city of Lincoln as it may deem advisable to select." The streets through which it is proposed to construct its line of road are, as we understand, all the streets of the city then laid or existing, running both north and south and east and west through the city. March 19, 1887, the Lincoln Rapid Transit Company was incorporated; the third paragraph of the articles provided for termini at the several railroad depots, at or near the intersection of Eleventh and N Streets in said city, also in West Lincoln, and at the Nebraska Exposition Association grounds, at a point near the Wesleyan University place, Wyuka cemetery, the penitentiary, the hospital for the insane, and such other points in the vicinity of Lincoln as it may be deemed advisable to select for the termini of lines. Said article further provides for the construction of tracks, branches and connecting lines over and along First, Second, Third, up to and including Thirty-third street, and other named streets running north and south, and the streets running east and west through the city, which description includes, as we understand, all the streets of the city then laid out or in existence. Elections were held to obtain the consent of the electors to the construction of railways by each of the above named companies,
671 the notice of such election reciting, in substance, the provisions of the aforementioned articles of incorporation relating to the streets over which it was proposed to construct street railways by the several companies above mentioned, except that the

termini of the proposed roads were omitted, and certificates issued to the chief officers of the several companies showing that the proposition had been adopted by a majority of all the votes cast at the election.

By chapter 38, laws 1889, street railways were authorized to unite their roads by consolidation, purchase, sale, or by subscription to or purchase of capital stock, and to mortgage their railways and property for the construction, equipment and extension of their roads. Under the provisions of this act the Lincoln Street Railway Company and the other companies above named executed articles of consolidation at different dates during the year 1891, and thereby became merged in a single corporation which retained the name of Lincoln Street Railway Company; and thereafter the lines constructed by each of the above named corporations were operated by the Lincoln Street Railway Company formed by the merger and consolidation of the above named separate companies. In July, 1891, the Lincoln Street Railway Company executed and delivered to the New York Security & Trust Company a trust deed on its property and franchises to secure the payment of bonds in the sum of \$600,000

672 issued for the purpose of borrowing money to construct and equip the lines of street railway. About June, 1892, said railway company executed and delivered to the New York Guaranty & Indemnity Company a trust deed on its railway and franchises to secure bonds in the sum of \$800,000 issued for the purposes aforesaid. Default being made in the payment of the interest accruing on these bonds, the mortgagees commenced an action of foreclosure in the United States circuit court, and in July, 1897, a decree was entered in favor of the mortgagees finding that each of said mortgagees was valid lien on the railway and franchises of the Lincoln Street Railway Company and directing the property and franchises of the company to be sold and the proceeds applied on the sum found due. A sale under this decree was had in December, 1897, at which Moses L. Scudder and William Belcher, alleged to be acting as the agents of the Lincoln Traction Company, bid in the property in their own names, and the master conducting the sale, acting under the directions of the court, made and delivered to Scudder and Belcher a deed conveying to them the railway and franchises of the Lincoln Street Railway Company; and thereafter Scudder and Belcher made and delivered to the defendant Lincoln Traction Company a deed conveying to it the railway property and franchises of said company. Thereafter, and about January 10, 1898, the defendant took possession of the railway and has from that time to the

673 present continuously operated the same.

The Lincoln Traction Company was organized on December 15, 1897. There is no provision in its articles for the construction of any street railway in the city of Lincoln or elsewhere, the evident purpose of the corporation being to purchase the property and franchises of the Lincoln Street Railway Company. This appears from the third paragraph of its articles, which defines the general nature of its business to be the acquisition by gift, grant, purchase, lease or otherwise, at public or private sale, and to own, enjoy, main-

tain,--control and operate all or any part of the property or property rights, franchises, easements, lots, lands, etc., now or hereafter in the possession or ownership of a certain corporation known as the "Lincoln Street Railway Company," and it is under these articles and conveyance to it of the property and franchises of the Lincoln Street Railway Company by Scudder and Belcher that it now claims the right to occupy the streets in the city of Lincoln, and to operate thereon the several lines of street railway of which it is in possession, and to extend its lines in and over any of the streets of the city at its pleasure.

The relator, as county attorney of the county of Lancaster, brought this action to oust the defendant from its occupancy of any and all streets in the city of Lincoln. In the information filed he
674 alleges that the Lincoln Street Railway Company, without right, and without lawful authority therefor, and without first obtaining the consent of a majority of the electors of said city of Lincoln, assumed to construct, in and upon certain streets of the city, street railway tracks; and, without authority therefor, assumed to lay down, in and upon certain public streets, ties, and rails, and run and operate street cars, without having obtained any right, authority or franchise therefor from said city or electors thereof. The information then recites the particular lines of street railway constructed by the Lincoln Street Railway Company and which are now being operated by the defendant, the Lincoln Street Railway Company claims the right to construct and operate said lines of street railway under an ordinance passed by the mayor and council of the city in 1885 and pretended consent of a majority of the electors obtained at an election held in April, 1885, but it is alleged that no legal notice of such election was given. It is further stated that the Lincoln Street Railway Company operated its lines for a few years and then abandoned the same, when the Lincoln Traction Company, without right or authority, assumed the right to operate street cars and a line of street railway upon and over the streets of Lincoln and practically along the routes theretofore occupied by the Lincoln Street Railway Company.
675 Reference is then made to the articles of incorporation of the Lincoln Traction Company, and its right to own or operate a Street railway company assailed upon the grounds above named, and also for the reason that its articles of incorporation do not name any termini of any street railway which it proposed to construct or operate, or any streets of the city of Lincoln which it proposes to occupy or over which it intends to operate its cars. It is further stated that the Lincoln Traction Company is constructing additional lines for which no consent has been obtained from the electors of the city, and that it never has filed any map or plat showing the route or location of any proposed line.

The answer of the defendant, the Lincoln Traction Company, recites the organization of several street railway companies heretofore described and the consent of the electors of the city to the construction of lines of street railway by said several corporations. It further alleges the consolidation and merging of these several cor-

porations into one corporation known as the "Lincoln Street Railway Company"; the issue of bonds as heretofore recited; the foreclosure of the mortgages given to secure the payment of said bonds; a sale of the property and franchise of the Street Railway Company to Scudder and Belcher, who, it is alleged were acting for and on behalf of the Lincoln Traction Company in making the purchase at the master's sale; the conveyance by Scudder and Belcher of the property so bid in by them to the Lincoln Traction Company, 676 after which it is alleged, said company took possession of the railway and franchises of the Lincoln Street Railway Company, and has from that time to the present continuously operated the street railway purchased, and exercised and used the franchise obtained thereby. For a further defense it is alleged that the Lincoln Street Railway Company used the franchise granted by its charter openly and notoriously for more than 21 years prior to the filing of the amended information in this case, and that any action challenging the grant of the franchise is barred by lapse of time, and that the law will presume a grant. It is further stated that after its organization the state in many ways recognized and acquiesced in the grant of the franchise claimed by the company under its articles; that it has assessed and collected taxes for each year 1885 to 1897 on the property and franchise of the corporation; and that the city of Lincoln, acting under authority of the state, levied and collected taxes against the corporation finally merged and consolidated into the Lincoln Street Railway Company. Laches is also charged against the state in the conduct of the case, in that the trial of the action had been delayed for eight years after its commencement, and that in the meantime taxes had been levied and collected against the property and franchise, and that it had issued and sold bonds to the extent of \$150,000 and expended large sums of money in the construction and equipment of its lines. It is also alleged that at the time the Lincoln Traction Company purchased the property and 677 franchises of the Lincoln Street Railway Company an action was pending against the latter company in the district court of Lancaster county to enforce the payment of certain special taxes assessed against its property; that after the purchase the Lincoln Traction Company was made a party defendant to said action, and that the city, by a substituted petition filed therein, alleged that the defendant had acquired no franchise of the streets of the city of Lincoln; that it had acquired no right by its pretended purchase under the decree of the United States circuit court; and that it was wrongfully and unlawfully occupying the streets of the city and obstructing travel thereon; that the defendant answered to the merits in said action; that the issue raised was submitted to the court, which on March 12, 1902, gave judgment in favor of the defendant and against the city of Lincoln, and adjudged that the defendant had a valid franchise to operate a street railway in the streets of the city and was lawfully occupying the streets under such franchise, and this judgment is pleaded in bar of this action. A subsequent action brought against the defendant by the city of Lincoln to oust it from its occupancy of the streets of the city, and in which judgment

was given for the defendant, is also pleaded in bar of this action. The trial resulted in a judgment for the defendant, and the relator has brought this appeal.

The foregoing extended statement of facts and of the issues made by the pleadings seemed necessary to an understanding of
678 our views of the rights of the respective parties. It will be noticed from the provisions of our constitution and several statutes relating to street railways set forth in the above statement that two things are essential to the legal maintainance and operation of a street railway in any city of this state: First, a corporate organization whereby a franchise to operate a street railway is obtained and, second, the consent of a majority of the electors of the city to the occupation of the streets with the necessary tracks and equipment for the operation of the road. The first requisite can be obtained only from the state by organization under the general incorporation law provided for those wishing such a franchise. The charter reciting, among other things, the termini of the proposed railway, and naming the route and street or streets through which it is proposed to construct and operate the same; and, second, the consent of the electors of the city to the use of the streets named, which consent must be given at an election held in the usual manner after ten days' notice. This consent of the electors, when legally given to legal proposition submitted to them, constitutes, in our view, the grant of a right of way on and over the streets named in the articles of incorporation and in the notice for the election, and confers
679 upon the railway company an easement in the street which is irrevocable after the company has, within a reasonable time, acted upon the permission given and constructed its lines of road.

It is insisted by the relator, and strenuously urged in a brief filed by the city attorney, who was allowed to appear in the interests of the citizens of Lincoln, that the several propositions submitted on behalf of the several railway companies to occupy all the streets of the city with their tracks was not such a proposition as the constitution and statutes contemplate, and that the consent given was therefore void. Our views upon this question cannot be better expressed than in the words of Judge Lurton, found in *Mayor v. Africa* 77 Fed. 501, where permission to enter upon the streets of the city had first to be obtained from the city council, and where the ordinance manifesting the consent of the council covered all or nearly all the streets of the city. The Judge said: "To say that the whole of the grant constitutes a route or system is absurd. The grant covers every street, and, if occupied, would result in a railroad upon the four sides of every city square. The city would be covered by a line of railroad having the system of a checkerboard, regardless of the public interest, and in defiance of the public necessity. No community would for a moment tolerate such an unnecessary and harmful obstruction of its streets, and no company could possibly
680 contemplate such a multiplication of parallel lines, crossed at right angles at each cross street by another series of like parallel lines. The clear purpose of this ordinance was to enable the

grantee to elect from time to time what streets it would occupy, and what new lines, or extensions of old ones, its interests as private corporation would justify. To delegate this power to a street railroad company is wholly inadmissible, violates every principle of public policy, and has no sanction in law. The provisions of the statute which we have heretofore cited, providing that 'no one of the streets of said city shall be used by said company * * * until the consent of the city authorities has been first obtained and an ordinance shall have been passed prescribing the terms on which the same may be done,' is a clear implication that the city authorities shall know what streets the proposed railroad is to occupy, and intelligently determine whether the public interests will thereby be subserved."

In the absence of a constitutional provision the control of the streets and public highways of the state is vested in the legislature, which may delegate to the municipal authorities therein the power of such control and regulation. This control is to be exercised in the public interest, and our people were so jealous of this right they made it a provision of the constitution that neither the legis-
 681 lature nor the municipal authorities should have authority to grant a right of way for street railways in any city or incorporated town. They reserve to the people of each municipality the authority to say upon what streets a street railway might be constructed, and this consent was to be given at an election in which the proposition was to be submitted. Of necessity this means that a specific grant is to be asked for, that a specific route must be designated, that a blanket grant to occupy any or all of the streets of the city was never intended or contemplated, for this would be granting to a private corporation the right to choose its own route, and lay its track in any street of the city as its interest might dictate, thus vesting it with the very power which the people have denied to the legislature and the municipal authorities. It requires no argument to show that a blanket grant of this kind conferred upon a private corporation to exercise its own discretion in the choice of routes would be exercised in its own interest, regardless of the public welfare. The occupation of the public streets of the city by railway lines is a matter of public interest to be exercised for the public benefit, and is a matter that cannot be delegated to a private corporation to be used at its discretion, as advantage or injury to its own interest may require. The most that can be claimed from the permission obtained from the electors of the city of Lincoln by the several street
 682 railway companies is the right to enter upon such streets of the city, within a reasonable time after such permission was granted, as they thought best to occupy with their lines of road. So far as these lines have been constructed we think the defendant may claim an easement over the streets occupied, but the blanket license under which the defendant claims the right to extend its lines or to go upon other streets must be denied.

As to the constructed lines, it would be manifestly unjust, not only to the defendant, but to the holders of its securities, to now oust it of rights and privileges which it and those through which it takes title have been claiming and exercising for years with knowl-

edge and acquiescence on the part of the state. The state, like individuals, may be estopped by its act, conduct, silence and acquiescence. *State v. Flint & P. M. R. Co.* 89 Mich. 481. In *State v. School District*, 85 Minn. 230, it is said: "In cases where the right of a corporation to assert its corporate existence has been questioned because of some defect or irregularity in the proceedings for organization, it has frequently been held that the doctrine of estoppel is applicable, where there have been acts on the part of the state which in terms amount to a waiver. The conduct of a state may be such as to constitute a declaration that a forfeiture of corporate rights will not be insisted upon, and that the right to declare such forfeiture is waived. The authorities upon this are abundant." Cooley, in his work on *Constitutional Limitations* (5th ed.) 311, after stating the well known rule that the corporate existence of a municipal corporation cannot be questioned by a private individual, and that the state only can raise that question by quo warranto or other direct proceedings, proceeds to say: "That state itself may justly be precluded, on the principle of estoppel, from raising such an objection, where there has been long acquiescence and recognition." It is a significant fact that, even after commencing the action, the state for eight years made no effort to bring it to a trial and allowed it to slumber upon the docket. In this condition of affairs it seems unconscionable to ask us to deny the defendant the right to operate its constructed lines, and as a consequence compel it to sell its property for what it may bring, or, if no sale can be effected to make a scrap pile of its personal effects.

What we have said in relation to blanket license to enter upon the streets of Lincoln arises from the fact that the charter of the companies mentioned did not attempt to fix termini covering all the streets of the city, and the electors had no notice of the termini of the different lines of road when the several elections were held. We are not attempting to determine the rights of a company under conditions different from what here appears. If the articles of incorporation of these several companies had fixed a terminus at the end of each street, and the notice of election had set forth such time so that the voters understood that they were extending to the company the privilege of building along each street from one end to the other, it might be that a different rule would prevail. We are not now called on to pass upon the effect of such a franchise and our decision rests wholly upon what appears in the record. We are induced to make these remarks because in *Mayor vs. Africa*, supra, the court of appeals affirmed its roads upon the streets, and between the termini which were specifically set forth in the ordinance passed by the city council. In the opinion it is said: "Without expressing any opinion upon the other objections urged by counsel for appellants, we are content to reverse the decree of the lower court upon the ground that the ordinance of 1876 was not valid or effectual consent to the occupation of any street other than those embraced by the route beginning at the intersection of Main and Gay streets and terminating at the junction of Broad and Jackson. The termini and general course of that route are specif-

ically described, and the requirement of the tenth section of the ordinance, that the track upon those streets shall be laid within a given time, is an effectual recognition of that line as route specifically consented to by the municipality."

The state insists that the Lincoln Traction Company has
685 no corporate capacity to own or operate a line of street railway because its charter does not describe the termini of its lines or the streets in the city over which its road is to be operated, and, further, because its charter does not conform to the statute in providing for the construction as well as the operation of a street railway.

We think the information filed by the state concludes it upon this question. Where it is sought to question the corporate existence of an alleged corporation—this is, where the franchise to be a corporation is intended to be drawn in question, the proceeding must be against the individuals who usurp such franchise. Where the information is filed against a defendant by its corporate name, charging a usurpation of corporate franchises, and process has issued and been served accordingly, and the defendant has appeared and pleaded in a corporate capacity, setting up its charter, it is competent for the state to deny the corporate existence of the defendant. In *People v. Rensselaer & S. R. Co.* 15 Wend. (N. Y.) 113, it was held that an information in the nature of a quo warranto, filed under the revised statutes of the State of New York against a corporation or that it once had a legal existence. And in *State v. Cincinnati Gas Light & Coke Co.* 18 Ohio St. 262, 286, it is said: "We are aware of no case in this country, in which a body, sued as a corporation, has been ousted of the franchise to be a corporation,
686 on the ground that it never had a legal corporate existence."

Where a corporation is exercising powers or privileges in excess of its charter, then it may be proceeded against as a corporation, and the court will oust it of the franchises which it is usurping in violation of its charter. But where, as here, it is claimed that it has no existence as a corporate body because not organized in accordance with our statute, the case must proceed against the individuals who are usurping corporate rights.

Relating to the claim of the defendant that its right to construct and operate a street railway in the city of Lincoln is *res judicata*, it may be conceded, that this is the case so far as its lines were completed and in operation when the decrees relied on were entered. There were two suits in the district court for Lancaster county in which it is claimed the question was raised by the city of Lincoln. One was an action to enjoin the Lincoln Traction Company from constructing or operating a street railway, on the ground that it was unlawfully and wrongfully occupying the streets of the city. The other was an action to enforce certain paving assessments levied against the property of the Lincoln Street Railway Company and constituent companies, in which the validity of the mortgages given by that company were attacked, as was also the title of the Lincoln

687 Traction Company derived through a foreclosure of these mortgages. If we concede that the city represented the state in these actions, which is not at all clear still the judgments

entered would operate as an estoppel only to the extent that the city, by its plea, questioned the right of the railway company to the use of its streets. As we understand the record, the question put in issue by the suit first mentioned was the right of the Lincoln Traction Company to occupy the streets of the city with the lines then in operation, and its right to extend these lines and to take possession of other streets was not in question and was not covered by the decree entered. The petition in that case does not charge that the Lincoln Traction Company claimed any right in any of the streets of the city not then occupied by its railway, and the only fact alleged in support of the claim that the company was a trespasser upon the streets occupied by its lines rests in an allegation that defendant's only right to occupy those streets arose from a transfer to it of the property and franchises of the Lincoln Street Railway Company, to whom it was then conceded the people had extended the right to construct a street railway, the claim of the city being that such license or privilege was personal to the Lincoln Street Railway Company, and that it could not be conveyed or transferred to another company. It is true that in the prayer for relief the court is asked to enjoin the Lincoln Traction Company from occupying
688 the streets of the city for the construction, operation or maintenance of any line of street railway; but nowhere in the charging part of the petition is it alleged that the Lincoln Traction Company is constructing, or claims the right to construct, additional lines of road from those then in operation; and the question of its right to occupy any street upon which a line was not then constructed was not made an issue in the case. The estoppel could not operate beyond the issue made and the question tried, and that question was whether the Lincoln Traction Company was obstructing the streets of the city and whether the lines then in operation were a nuisance because of a want of authority on the part of the Lincoln Traction Company to maintain and operate the same. We cannot discover that the right of the Lincoln Traction Company to extend its lines or to occupy additional streets was in question in the second case above referred to, as we now recognize the right of the company to own and operate its lines so far as completed, a further discussion of these cases is not called for. The federal court, in the foreclosure proceedings above referred to, was not called upon, and did not in fact, pass upon the extent of the franchise of the Lincoln Street Railway Company, which was sold as a part of the mortgage security, nor was the question of the validity of its claim to occupy the streets of the city one which was then litigated. These questions are still
689 pending for decision of the courts, and we are not concluded thereon by any judgment heretofore entered.

Defendant further complains of the action of the trial court in allowing an amended petition to be filed raising the issue of the right of the Lincoln Traction Company to occupy any of the streets of the city. It is said that the original petition charged the company only with a failure to perform its duties and obligations as a corporation; that the suit was instituted and the case tried on the theory that a grant was made to the Lincoln Street Railway Com-

pany by reason of which it assumed certain obligations to the public which it had failed to perform, and that the case was tried and determined upon that theory. It is earnestly insisted that this court, instead of passing upon the questions presented by the record, should confine its examination to a review of the case on the theory on which it is said it was tried and determined in the district court. It may be that the trial court, even under our liberal statute relating to the amendment of pleadings, was in error in allowing the amended information to be filed; but, however that may be, the question of the right of the defendant companies to occupy the streets of the city of Lincoln and to exercise their own discretion in selecting the route upon which they will construct additional lines of road is fairly raised by the pleadings, and this question has been thoroughly

argued by the attorneys of the respective parties. In a case
690 of such great public importance we do not think the state should be concluded by our strict adherence to the theory upon which the district court may have tried the case. No claim is made that the record does not contain all the material evidence which could be offered in support of the rights of the defendant company to own and operate the line of road in its possession or to further extend its lines. If it be conceded that the trial court did not proceed upon the same theory upon which the case has been presented to this court, we fail to see where a different case could be made for the defendants. In this condition of the case an affirmation of the decree would be a great injustice to the public, and remanding it for another trial could benefit neither of the parties.

There are other questions discussed in the briefs of counsel which we regard as unimportant in determining the rights of the parties. For the benefit of counsel we will say that they have all been considered, but their consideration has not in anywise changed our views as above set forth. Our conclusion is that the Lincoln Traction Company is the owner of the constructed lines of street railway of which it is now in possession, and that it has right and authority to maintain and operate the same, that its purchase of the lines formerly owned by the Lincoln Street Railway Company does not invest it with right or power to extend its lines, or to take pos-
691 session of streets, or parts of streets, not now occupied by its completed lines, and that such extensions cannot be made, except by proceeding as required by law to obtain an additional franchise for that purpose and the consent of the electors of the city to such extensions as it may desire to make and such new lines as it may propose to construct.

We recommend, therefore, that the cause be remanded to the district court, with directions to modify its decree in conformity with the views expressed in this opinion.

Epperson and Good, CC., concur.

By the COURT: For the reasons stated in the foregoing opinion, the cause is remanded to the district court, with directions to modify its decree in conformity with the views expressed above.

Reversed.

(End of Omaha Exhibit No. 14, H. E. K.)

Mr. LAMBERT: Same objection as last above, incompetent, irrelevant and immaterial.

Mr. McHUGH: The complainant now offers in evidence the opinion of the Supreme Court of the state of Nebraska, filed December 18, 1907, in the case of State Ex Rel. James L. Caldwell, Appellant v. Citizens Street Railway Company, Appellee, it being admitted that the opinion filed is the opinion of the Supreme Court of the State of Nebraska filed as stated in the case stated and it being
692 agreed that the reporter may copy the same from Volume 80 of the Nebraska Reports beginning on page 357 and ending on page 362 the same to be marked Omaha Exhibit No. 15.

Mr. LAMBERT: Same objection, incompetent, irrelevant & immaterial.

Copy.

OMAHA EXHIBIT No. 15, H. E. K.

Filed December 18, 1907.

No. 15256.

STATE ex Rel. JAMES L. CALDWELL, Appellant,

v.

CITIZENS STREET RAILWAY COMPANY, Appellee.

1. Street Railways. Use of Streets. Where the electors of a city are invested with the power of extending to a street car company the right or privilege of entering on the streets of the city, an irregular exercise of such power will not, under all circumstances, be held void. Where the company, under the belief that it is authorized so to do under the vote of the electors, expends money in the construction of its line, considerations of public policy may require the court to protect it in the possession and use of its road so far as constructed and in operation, when its right to the use of the streets of the city is brought in question.

2. —. —. License. Assignment. The right of a street car company to occupy the streets of a city with a line of street railway, granted by a vote of the electors, is, if nothing more, a license
693 coupled with an interest, and such license is transferable.

3. Cities: Sale of Property. A city of the class of the city of Lincoln may sell property acquired at a tax sale without first obtaining the approval of the electors of the city.

Appeal from the District Court for Lancaster County.

Edward P. Holmes, Judge. Reversed with directions.

Flansburg & Williams, and J. M. Stewart, for appellant, Hall, Woods & Pound and Hainer & Smith, contra.

DUFFIE, C.:

From information filed by the state in this case the following facts appear: Three street railway companies, known as the "Capitol Heights Street Railway Company," the "Lincoln Rapid Transit Street Railway Company," and the "North Lincoln Street Railway Company," were duly organized under the laws of this state, and in the year 1887 ordinances were passed by the city council of the city of Lincoln calling elections for the purpose of obtaining the consent of the electors of the city to the construction of lines of street railway in and over the streets of said city. So far as appears, neither the ordinances passed by the council nor the notices of the election gave any proposed termini of the lines proposed to be constructed or the

route or the route of any of said lines, but the ordinances and
694 the notices described all the streets of the city as the streets upon which it was proposed to construct the several lines of street railway. At the several elections held, a majority vote was cast in favor of the proposition submitted, and certificates were duly issued to the said companies authorizing them to proceed and construct their several lines. The Capitol Heights Street Railway Company constructed and operated a line on Twelfth street from O street to N, from Twelfth to Eighteen on N, from N to G on Eighteenth, on G from Eighteenth to Twenty-first, then north on Twenty-first to Randolph, and east on Randolph to Fortieth street. The North Lincoln Street Railway Company constructed and operated lines from Thirteenth and N streets, running north to T, west on T to Eleventh, north on Eleventh to Y, east on Y to Twelfth, and north on Twelfth to the city limits. The Capitol Heights Street Railway Company, some time in 1892, amended its articles, and the name of said corporation was changed to the Home Street Railway Company and was thereafter known by that name. After the building and construction of the above mentioned lines by the Lincoln Rapid Transit Company and the North Lincoln Street Railway Company, the Home Street Railway Company, about the year 1892, purchased the physical property and right of way of said two companies, and by
said purchase these roads became merged in the Home Street

695 Railway Company of Lincoln, Nebraska. These lines continued to be operated by the Home Street Railway Company up to the year 1893, and during that time a large amount of general and special taxes were assessed against the property. In October, 1893, a suit was brought in the circuit court of the United States for the district of Nebraska, by the Fidelity Loan & Trust Company of Sioux City, Iowa, and a receiver was appointed to take charge of the property of the company, and afterwards the city of Lincoln, by leave of court, intervened in said action, and filed a cross petition setting up its lien for taxes upon the property of the defendant company. Such proceedings were had in that case in May, 1899, a decree was entered on the cross bill filed by the city, in which it was found that franchises had been granted to the Lincoln Rapid Transit Street Railway Company, the North Lincoln Street Railway Company, and that about July 1, 1893, the defendant the Home Street Railway Company, by purchase and conveyance, became the owner

of all the properties, rights and franchises of said above named companies; that the taxes and special assessments were valid liens upon all the property, rights and franchises of said corporation; and it was ordered that said Home Street Railway Company pay or cause to be paid the sum of \$46,015.68, the amount of said taxes with
696 interest thereon, within 20 days, and in default of such payment the properties and rights of defendant the Home Street Railway Company be sold to satisfy the decree. September 6, 1899, the property was sold and bid in by the city of Lincoln for the purpose of protecting its lien. The sale was confirmed and in 1906 a second sale was held, and the franchise of said Home Street Railway Company was sold and bid in by the defendant the Citizens Street Railway Company, which in the meantime, and at some date in 1906, had been organized for the purpose of constructing, maintaining and operating a street railway in the city of Lincoln, Nebraska. Previous to the sale last mentioned the Citizens Street Railway Company had purchased from the city of Lincoln the physical property purchased by the city under the decree of the circuit court of the United States, and it has since reconstructed the lines theretofore operated by the Home Street Railway Company, and now, as we understand, claims the right to extend its lines into any of all the streets of the city. After the appointments of a receiver for the Home Street Railway Company in 1893 none of the lines of that company were operated, and one claim of the state is that, because such lines were not operated from 1893 until 1906 when the defendant company went into possession, the Home Street Rail-
697 way Company has forfeited its franchise. A demurrer to this information was interposed by the defendant company and sustained by the court. The state not desiring to amend its information, judgment was entered dismissing the case, and the state has taken an appeal to this court.

Many of the questions raised by the record have been discussed and disposed of in *State vs. Lincoln Street R. Co. ante.*, p. 333. Under the holding in that case, it is evident that no valid consent to enter upon the streets of the city of Lincoln was ever obtained from the electors by the several companies which afterwards became merged in the Home Street Railway Company. Neither the ordinance calling an election nor notice of the election mentioned any termini of the lines or route of the proposed roads. The consent given was what we have heretofore termed a "blanket consent," which is of no avail when questioned by proper authority. It cannot be questioned, however, that, under our constitution and statute relating to the formation of street railway companies, the electors of the city — Lincoln had the power to confer on such companies the right to construct and operate a street railway within the corporate limits of the city. In the exercise of this power the termini of the road and the route to be taken between such termini should
698 be set forth in the proposition voted on. When this is done, the line of road is fixed and definite, and the right to construct this line is vested in the company and is beyond recall, as everything necessary to a valid and complete exercise of the

power has been done. While the statute must be followed in all essential particulars in order that the consent of the electors to the occupation of the streets of the city by a railway company shall be valid and beyond recall, it does not follow that an irregular exercise of the power possessed by the electors is absolutely void and wholly without force. The manner in which the question of the consent of the electors of the city was submitted was clearly irregular, and the affirmative vote cast thereon just — clearly conferred no power upon the railway companies to use the streets of the city beyond the time when that right should be questioned by some proper authority. But we are not prepared to say that, where the companies acted in good faith and expended their money in the construction of lines under a supposed right to occupy the streets, and this rights was not questioned until the bringing of the present action, they or those claiming under them should be ousted from the possession of such streets as are now occupied by their lines, and their property rendered worthless. Under the circumstances of this case, we do not think it would be a wholesome public policy to hold that, because of the irregularity which occurred in granting the right which the people had power to confer, such irregularity renders all proceedings under the vote void and of no effect.

699 Regarding the claim of an abandonment of its franchise by non user, the authorities are clear that, to warrant a court in basing a decree upon that ground, the abandonment must be clear, unequivocal and decisive act of the party showing a determination not to use or claim the benefit of its franchise. *Citizens Street R. Co. v. City of Memphis*, 53 Fed., 715.

It is also claimed by the state that the city of Lincoln did not acquire the franchise or consent of the electors held by the Home Street Railway Company by the foreclosure and sale in the federal court. We think the rule quite well established that a franchise to be a corporation is a separate and distinct from a franchise as a corporation to maintain and operate a railway. The latter may be mortgaged without the former and passes to a purchaser at a foreclosure sale. *Morgan vs. Louisiana*, 93 U. S., 217. The consent of the electors to the occupation of the streets of the city, if a mere license, was a license coupled with an interest, and such licenses, it is well settled, are assignable. *Sawyer v. Wilson*, 61 Me. 529; *Wiseman v. Eastman*, 21 Wash., 163; *Heflin v. Bingham*, 56 Ala. 566.

It is further claimed that the city of Lincoln had no authority to sell and convey to the defendant the property of the Home Street Railway Company which it had purchased at foreclosure sale. This objection is fully met by the provisions of subdivision IV, 700 sec. 9 art. I, Ch. 13, Comp. St. 1905, defining the powers of a city of the class of the city of Lincoln. It reads as follows: "To sell and convey real or personal property owned by the city, and make such orders respecting the same as shall be deemed conducive to the interests of the city; but shall not have power to sell any real estate of the city, except such real estate as may be purchased upon sale for general or special taxes or assessments, unless

authorized so to do by a vote of the majority of the electors of such city at a general or special election therefor."

Upon the record before us, we are of opinion that the Citizens' Street Railway Company is entitled to the use of the streets now occupied by it for street railway purposes so far as its lines are completed and in operation, that it has no right to extend its lines without further authority from the electors of the city, that the decree of the district court should be reversed and the cause remanded, with directions to enter a decree in conformity with the views herein expressed.

Epperson and Good, CC., concur.

By the COURT: For the reasons stated in the foregoing opinion, the decree of the district court is reversed and the cause remanded, with directions to enter a decree in conformity with the views above expressed.

Reversed.

(End of Omaha Exhibit No. 15, H. E. K.)

701 Mr. McHUGH: The complainant now offers in evidence so much of the Omaha Daily Bee of September 5th, 1884, as contains the following article, it being admitted that the said paper was a daily paper published and in daily circulation in the City of Omaha, and that the article may be transcribed by the reporter, and marked Omaha Exhibit No. 16.

Mr. LAMBERT: Respondent makes the objection that the same is incompetent, hearsay, irrelevant and immaterial.

Following is a true copy of Omaha Exhibit No. 16. H. E. K.

"Electrical Wonders.

Omaha Bee, Sept. 5, 1884 (p. 4).

Philadelphia, Sept. 2.—Ten thousand people witnessed in the Exposition Building in West Philadelphia today, the opening of the International Electrical Exhibition, the largest ever held and the fourth of its kind since the great electrical exhibits in Paris in 1881, when the incandescent light was still doubted, Siemen's electric railroad only two years old, and the photophone fresh from the hands of Bell and Tainter. In the exhibition of today, however, 1750 separate exhibits, the electric wonders of the nation, which for fifty years has led in every practical electric invention. The main building, about one half as large as the great machinery hall of the centennial year, is more than half filled by the dynamos and machinery for making electric lights. The first exhibition in importance is the immense Edison dynamo weighing thirty (30)

702 tons; then the United States Electric Lighting Company with its 600 incandescent lights and its numerous arc lights of three grades. The Thompson-Houston system shows numerous lights. * * * The exhibit by the Ordinance Bureau of the United States Navy Dept. with its immense torpedoes, its

powerful projecting lights, * * * while destructive devices have been invented for blowing up vessels. There are electrical clocks and musical instruments operated by electric current, machines for weaving, machines for sewing, and machines for electrotyping; the Roosevelt organ in the galley with its electrical attachment and operated by an invisible organist."

End of Exhibit No. 16.

Mr. McHUGH: The complainant now offers in evidence so much of the Daily Bee of September 12th, 1884, from page 11 thereof, as contains the following editorial, it being admitted that the said paper was at said time a daily paper published and in general circulation in the City of Omaha, it being agreed further that the reporter may transcribe the same, and that the same be marked Omaha Exhibit No. 17.

Mr. LAMBERT: Objected to as incompetent, irrelevant, immaterial and hearsay.

Following is a true copy of Omaha Exhibit No. 17. H. E. K.

"Omaha Bee, Sept. 12 (p. 11).

Editorial.

703 The electrical exhibition at Philadelphia is the 4th exposition of the kind ever held. Others held in Paris, Vienna and Munich and the first, only three years ago. The Philadelphia Exposition has over 2000 exhibits of the application of electricity to useful purposes. This is indeed wonderful when we consider that 10 years ago, the telephone was unknown, the electric light was not developed and hundreds of other applications which have since been invented were not then thought of. It is true that the principles of electricity were known long before it was thought possible to apply them to practical uses, and hence the electrical exhibition is the more remarkable for the numerous application- of these principles than for new discoveries. * * * It would therefore seem almost impossible for the ordinary human mind to conceive what it will be in its maturity. Yet it was only a few years ago that any person who would have predicted the telephone and the electric light would have been laughed at and pronounced a visionary crank."

End of Omaha Exhibit No. 17. H. E. K.

Mr. McHUGH: The Complainant now offers in evidence so much of the Omaha Daily Bee, dated September 15th, 1884, as contains the following article, it being admitted that the said paper was at that time a daily paper published and in general circulation in the City of Omaha, and it being agreed that the article may be
704 transcribed by the reporter, and identified as Omaha Exhibit No. 18.

Mr. LAMBERT: Same objection as last above, incompetent, irrelevant, immaterial and hearsay.

Following is a true copy of Omaha Exhibit No. 18. H. E. K.

"PHILADELPHIA, Sept. 11.

Mr. BELL:

America is undoubtedly ahead in practical application of electricity to purposes of public utility, but in the most important use to which electricity has heretofore been applied, we are very much behind the great civilized nations of Europe, that is the transmission of force by means of electricity. A railway seven miles long is worked by electricity at Port Rush in Ireland. A water-fall in the neighborhood is utilized to work the dynamo machine, and the current is transmitted over a telegraph wire from the falls to the railway. The waste of water power in American for want of electrical apparatus to transmit it is something enormous. * * *."

End of Omaha Exhibit No. 18, H. E. K.

Mr. McHUGH: The complainant now offers in evidence so much of the Omaha Daily Herald of date December 25th, 1879, as contains the following editorial, it being admitted that the said paper was at such time a daily paper published and in general circulation in the City of Omaha, and it being agreed that the reporter
705 may transcribe the same, and identify the same as Omaha Exhibit No. 19.

Mr. LAMBERT: Same objection as last above, incompetent, irrelevant, immaterial and hearsay.

Following is a true copy of Omaha Exhibit No. 19, H. E. K.:

"The Herald, December 25, 1879.

Editorial.

Edison's Victories with Electric Light.

More glorious than any triumphs that were ever won on fields of martial glory, are the victories of Edison with the electric light if what is claimed for them shall prove true. Since our brief article of yesterday (above) the Inter-Ocean has given a complete account of the work of the Wizard of Menlo Park, and summarizes the result in the following statement of his wonderful achievements, as illustrated by its own cuts and figures.

1. He has succeeded in producing an electric light soft, mellow, but brilliant which can be utilized for all purposes of illumination, etc.

2. Kind of machinery used.

3. * * *

4. * * *

5. * * *

6. By constructing the general machine, a power is generated, capable of performing light work, such as running sewing ma-

706 chines, pumping water, etc., To run an ordinary sewing machines requires the exhaustion of only as much electricity as is required for one jet of light, and the power is obtained by attaching the wheel of the sewing machine to the apparatus by a little belt, and merely touching a knob conveniently arranged."

End of Omaha Exhibit No. 19, H. E. K.

Mr. McHUGH: The complainant now offers in evidence so much of the Daily Herald of date December 27th, 1879, as contains the following editorial, it being admitted that the said paper was on said date a paper printed and published and in general circulation in the City of Omaha, and it being agreed that the reporter may transcribe the same, and identify the same as Omaha Exhibit No. 20.

Mr. LAMBERT: Same objection as last above, incompetent, irrelevant, immaterial and hearsay.

Following is a true copy of Omaha Exhibit No. 20. H. E. K.

"Editorial.

What Edison Says.

Edison says: 'We will send light all night and power all day. I have a little motor with which I have been raising five gallons of water every minute it was at work, and the electricity used was exactly the amount required to burn on gas jets that require one-eighth of one horse power, for I reckon eight gas jets for every
707 horse power.'

There is, or is not, a great revolution impending in the matter of electric light and power. We believe as we have long believed, in Edison and the revolution."

End of Omaha Exhibit No. 20 H. E. K.

708 HENRY A. HOLDREGE, a witness, being called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHugh, and testified as follows:

Mr. McHUGH:

Q. Where do you reside?

A. Omaha.

Mr. LAMBERT: The respondent objects to any testimony in this cause for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals of the 8th Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second. Because at the time the said cause was pending in the Circuit Court of the United States for the District of Nebraska, and also in the 8th Judicial Circuit Court of Appeals, complainant in the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

709 Mr. McHUGH:

Q. And what is your occupation?

A. General Manager Omaha Electric Light & Power Company.

Q. How long have you occupied that position?

A. Since January, 1904.

Q. That was the date on which you came to the company?

A. Yes sir.

Q. I am not calling you as an expert—what technical training have you had?

A. I was educated as an electrical engineer at the Massachusetts Institute of Technology, and engaged in professional engineering—electrical engineering, ever since.

Q. When you came to this company in January, 1904, the Omaha Electric Light & Power Company was operating its plant in the city of Omaha?

A. Yes sir.

Q. What, in a general way, was the business that that company was doing at that time?

A. Generating and distributing electricity?

Q. Did it have a central generating plant?

A. Yes sir.

Q. And a distribution system through which the energy was carried?

A. Yes sir.

Q. For what purposes was the electrical energy which was generated and distributed in Omaha by the Omaha Electric Light & Power Company, in January, 1904, when you first came to the company, utilized?

Mr. LAMBERT: Objected to for the reason that it is incompetent, in that it has been decided in the case of Omaha Electric
710 Light & Power Company vs. The City of Omaha, by the Circuit Court, in said cause, that the said company had no authority or power under its franchise to furnish or distribute power in the City of Omaha, and for the reason that the said company, under its franchise, had no such power or right.

A. Utilized for light, power, heat, and in certain chemical processes.

Q. What is the fact as to whether it was utilized for light, power, and heat and these chemical processes in a commercial way by the customers of the company?

Mr. LAMBERT: Same objection.

A. It was so utilized.

Q. You may state what is the fact as to whether the business of the company has developed and extended during the years that you have been general manager of that company?

A. Developed and increased very greatly.

Q. What is the fact as to the capacity and appliances at the generating plant, as well as the distribution system—been enlarged and extended during that time?

A. Been very greatly enlarged. The capacity of the generating plant is more than six times as great as it was when I came here, and the distributing system has been proportionately increased.

Q. Mr. Holdrege, calling your attention to the statement of gross earnings of the Omaha Electric Light & Power Company, and its grantors, as shown on page 19 and 20 of the bill of complaint herein, I will ask you to state whether you have compared that statement with the books of the company, and know whether the statement is correct?

A. I have compared it, and it is correct.

711 Q. You know it is?

A. Yes sir.

Q. State what the fact is as to whether that statement of gross earnings as contained in the bill of complaint herein on pages 19 and 20, is correct, according to the books of the company?

Mr. LAMBERT: Objected to as irrelevant and immaterial.

A. It is correct.

Q. Mr. Holdrege, were you general manager—while you were general manager of that company, the work of placing the wires for the transmission of electricity for light, heat and power, underground in a certain prescribed district, as order by an ordinance of the city of Omaha, on the 13th day of December, 1904, known as Ordinance No. 5433, and referred to in Paragraph 26 of the Bill, was done?

A. Yes sir.

Q. You may state whether that work was done with all possible expedition consistent with business principles?

A. Yes, it was.

Q. When was that work completed?

A. In the Fall of 1905—October, I think.

Q. You may state what the fact is as to whether that work was completed as soon as it could have been completed—with all possible dispatch?

A. The work was pushed with the greatest amount of energy we could supply, and it was completed in the shortest time practicable.

Q. What amount of money was expended in the work?

Mr. LAMBERT: Objected to as irrelevant and immaterial.

A. \$276,600.54.

712 Q. Mr. Holdrege, in the operation of your plant, carrying on of your business, what is the fact as to whether all of the current that is generated at your central plant is carried on one circuit, or whether you divide it up into different circuits or distribution systems?

A. Divided up with numerous circuits for distribution.

Q. Is your company under contract with the city of Omaha for arc lights?

A. Yes sir.

Q. What is the fact as to whether the arc lights that are provided and maintained by your company under your contract with the city for lighting the streets are on a separate and distinct circuit?

A. They are separate and distinct circuits—several circuits used exclusively for that purpose.

Q. The circuits that are provided for the arc lights that light the streets under the contract with the city, are on circuits that perform no other function than the carrying of the energy for these arc lights?

A. That is right.

Q. Now, what is the fact as to whether you have certain circuits which carry current exclusively utilized for power purposes?

A. We have several such circuits.

Q. What is the fact as to whether these circuits are separately maintained by reason of any necessity in the operation of the business or whether they are maintained as a matter of convenience and good service?

A. Maintained as a matter of good service, economy, reliability and convenience.

713 Q. Detail of operation?

A. Yes sir.

Q. What is the fact as to whether you have circuits which distribute electrical energy which is used by customers connected with these circuits for more than one purpose?

A. The circuits which supply customers are used for various—numerous purposes,—lights, power and heat, and chemical purposes.

Q. What is the fact as to whether those various uses — made by customers of the electricity coming from the same circuit or not?

A. They are so made.

Q. What is the fact, Mr. Holdrege, as to where your distribution system ends with respect to your customers' premises?

A. It ends in most instances at the outside wall of the building; in the district where the wires are under ground, we run into the building, stopping at the inside of the wall.

Q. So that your distribution system ends on the premises of the customers, either at the outside or inside of the wall?

A. Yes sir.

Q. The wiring system which is within the buildings that are served—does the wiring system belong to the proprietors and owners of the buildings?

A. Yes sir.

Q. What is the fact with respect to appliances for the utilization of the energy, fixtures—are they part of your system, or do they belong to the customer?

A. In most instances we supply the lamps, but the fixtures, wires, sockets, motors, and all such appliances are the customers' property.

714 Q. What is the fact as to whether the fixtures containing the sockets are standardized so that various connections can be made from those sockets to appliances?

A. They are so standardized.

Q. What is the fact as to whether there is and has been in the market generally for sale appliances for the utilization of electrical energy?

A. There are very numerous kinds.

Q. Instance some of them?

A. Fan motors, flat irons, electric washing machines, electric driven vacuum cleaning machines, cooking devices, heating by electricity, devices for charging storage batteries for use in automobiles, various toilet devices, heating water, for curling hair—a great many such devices.

Q. You may state whether your company has the control of the sale of such devices or whether they are on sale in stores?

A. They are on sale in numerous stores in the city.

Q. You may state whether those appliances—all those that you have mentioned and referred to—are so made as to be utilized in connection with these standardized sockets and fixtures you have mentioned?

A. They are so made.

Q. State how a person—say, in a residence,—utilizes the electrical energy that you deliver to the premises from your distribution system, in these various ways?

A. A lamp may be unscrewed from its socket—if you put the lamp in the socket it utilizes the energy for light; if you take the light out, you may run a fan motor, or heat,—a fan—iron, or run a coffee perculator or vacuum cleaner; many houses are wired specially for ironing or cooking purposes.

715 Q. What is the fact as to whether if a customer first puts a lamp into the socket, it utilizes the energy you furnish for the production of light, then takes out the lamp and inserts another plug attached to an appliance, and utilizes your energy for power in the shape of operating a washing machine, or a fan, or vacuum cleaner, or even should take the plug out and put in a plug connected with an iron—flat iron—or other heating appliance, utilizing the energy thus for lights, power and for heat—would there be any corresponding change or any change in the operation of your company, or the functions of your company resulting from that diversity of use?

A. No change whatever.

Q. You may state what the fact is as to whether you have any means of knowing whether a customer to whose premises you deliver your electric energy from your distribution system, connected up with the wiring of his house, utilizes your energy so furnished, for lights, or heat, or power, or all three, or how much of your energy that he uses or consumes in every one of these methods?

A. We have no means of knowing how the customer uses the energy supplied.

Q. You may state, Mr. Holdrege, whether you have any control

over the use to which the customer will or does put the electric energy that you generate and distribute and supply to his premises from your system?

A. We have no control, except that the quantity of energy taken at one time is limited by the capacity of the wires leading to a different customer.

Q. So that your wires carry a certain amount of energy to a customer—have you any control over the method in which he
716 should or does utilize that energy?

A. None whatever.

Q. State what the fact is, speaking generally, as to whether customers generally, throughout the territory supplied by your customers, do utilize the energy your furnish—electrical energy you furnish—in various ways?

A. They do in various ways very generally—many thousand people own irons in the city, hundreds of vacuum cleaners, and thousands of fans.

Q. Operated by the energy you furnish?

A. Yes sir.

Q. What is the fact, Mr. Holdrege, say so far as you can state it, as to whether you have a single circuit in your distribution system excepting those circuits that supply the energy for the arc lights, under the street lighting contract, which is not utilized some way, or sometime by your customers for purposes other than light?

Q. All of our circuits are so except the ones you mentioned—the street lighting contracts—for power and heating purposes.

Q. What territory is supplied by your company with electrical energy generated at your central plant in the city of Omaha?

A. The territory about nineteen miles long beginning north of the northern edge of the city of Florence, and extending south to Bellevue and Fort Crook, and eight or nine miles extending from the territory west of the city of Benson to the river; in addition to that, energy is sold to the Citizens' Gas & Electric Light Company of Council Bluffs, and the citizens of Council Bluffs are supplied by energy generated from the station.

717 Q. And the citizens of Council Bluffs—they are served by the Citizens' Gas Company of Council Bluffs?

A. Yes.

Q. And that company buys of you and you deliver to them—to that company—at the river—the current you make?

A. Yes sir.

Q. What municipalities are embraced within the territory served by your plant from the generating systems?

A. Cities of Omaha, South Omaha, Benson and Florence, and villages of Dundee, Bellevue and Fort Crook—Fort Crook government reservation—army reservation, and various places in Douglas and Sarpy counties not in any villages. In addition to this energy is sold to the Nebraska Power & Traction Company which, in turn, sells to the citizens of the city of Papillion and village of Ralston.

Q. What is the fact, Mr. Holdrege, as to whether your testimony

as to the use of the energy furnished your customers applies generally throughout all the territory that you serve that you have named?

A. It does apply.

Q. Eliminating from consideration the circuits which carry the energy for the arc lights, under your lighting contract with the city of Omaha, what is the fact, Mr. Holdrege, as to whether the city of Omaha could cut those of your wires which carry current for power, without cutting every wire you have?

Mr. LAMBERT: That is objected to as incompetent, calling for a conclusion, and speculation on the part of the witness.

A. In order to cut all of the wires which carry energy used for power purposes they would have to cut all of our circuits.

Q. I wish you would describe in a general way, Mr. Holdrege, what has been done by the commercial and manufacturing establishments in the territory supplied by your company, as described, in the way of adapting their respective plants to the use of electrical energy for power purposes, and the dependence of such plants upon your company and its appliances for power?

Mr. LAMBERT: Objected to as irrelevant, immaterial and incompetent, and for the further reason there is no one in a condition to assume or make any definite claim in relation to such matters.

A. Very many business establishments in the city are absolutely dependent upon the use of power supplied by our company to carry on their business.

Q. Go on and tell why?

A. Both for manufacturing, driving machinery, and for transportation purposes, running elevators, plants have been equipped and adapted to the use of electric power such as we furnish, and could not at the present be supplied from any other source.

Mr. LAMBERT: I move to strike out the latter part of the answer as not responsive.

Q. Mr. Holdrege, will you produce for your testimony a list of the customers of your company, in May, 1908, who were utilizing your current for power purposes, as far as you can?

A. I will produce a list of those using power supplied from exclusive power circuits.

Q. You have no way of telling—well I meant in my question to have you provide a list of who utilizes the power from the exclusive power circuits—that you will produce?

A. I will.

Q. I mean the use of all your circuits for power purposes—of course, you are unable to state—

A. Exactly.

Q. You know they are so used, but the charge is for the amount of current supplied and is not regulated on the use to which it is put—to these people?

A. Exactly.

Q. Mr. Holdrege, are you a member of the National Electric Light Association?

A. Yes sir.

Q. That is an association of—national association of electric light companies, and their representatives?

A. Yes, sir.

Q. And do you attend the meetings of that national body?

A. I have done so frequently.

Q. What is the fact as to whether the utilization of electrical energy for power purposes, or purposes of generating heat or other commercial purposes is one of the subjects considered and discussed in that body?

A. It is discussed.

It being now 12 o'clock P. M. the further taking of depositions was adjourned until 2 o'clock P. M.

Convened at 2 o'clock P. M. pursuant to adjournment, and the following proceedings were had:

Mr. McHUGH: The witness now produces the statement of the power and customers served from the power circuits in May 1908, and the same is marked for identification by the reporter as Omaha Exhibit No. 21, and the same is offered in evidence.

See Page 213.

720 Mr. LAMBERT: To which the respondent objects as incompetent, irrelevant and immaterial, no objection being made to the books not being the books, or the statement substituted.

Cross-examination.

By Mr. LAMBERT:

Q. Mr. Holdrege, directing your attention to the current usually supplied to residences as distinguished from manufacturing plants, where greater power may be required and used, it is a fact now, and has been a fact hasn't it, that you charge against those consumers for lights—current furnished for lights, in your statement to them?

A. I don't remember whether the word "light" is used on our statement now or not, on the printed statement, but I don't remember.

Q. I think it is—I have one here—this—it is under date of May 20th, in which the words are used "to electric current" reading from a certain date to another—you may look at it if you care to? (Hands document to witness.)

A. (Witness looks at document.) Yes, that is our ordinary form of statement—reads to electric current for lighting.

Q. And that is the form that is usually sent to consumers at residences?

A. Yes sir.

Q. As distinguished from those using manufacturing power, and that has been true since your connection with your company so far as you know?

A. The form of our printed statement has frequently been changed, and I can't say whether that word "light" has always been
721 on there or not; I don't remember.

Q. Well, whether it has or not, it is a fact, is it not, that

so far as residences goes the current in the main is supplied for the purpose of lighting rather than for the purpose of power used?

A. I presume the greatest use, the greatest use of current in residences is for lighting, but use for power and other purposes is also very extensive and important.

Q. I suppose its use for power purposes in residences is growing, perhaps, isn't it?

A. Yes sir.

Q. Appliances are being invented for diversified use from year to year?

A. Yes sir.

Q. It is a fact that your company has never encouraged the use of other appliances than those for developing light—never intended to discourage it?

A. On the contrary, we encourage it.

Q. You have always encouraged it as far as you could—that is true is it?

A. Yes sir.

Q. Have you ever undertaken at any time to prevent the use of current for any purpose than light where you supplied it primarily for light?

A. Why, I have known of some instances where houses have been connected—too large—required too much current for the wires and appliances furnished, and we have required customers to make arrangements for using motors.

Q. In your testimony this morning, as I understand it, you said it would be impossible for the company to detect the use to which a consumer would put the current—for light, or one of the
722 appliances for diversified use—have you ever at any time undertaken to regulate the use to which the current should be put—has it concerned you, in other words, whether used for light or for power?

A. No sir.

Q. Where proper appliances were used?

A. No sir.

Q. You have certain conductors or wires that are used exclusively for power purposes—that is, for furnishing current for power?

A. Yes sir.

Q. The statement you gave this morning shows the list?

A. Yes sir. (Omaha Exhibit 21.)

Q. That will give the list of the users?

A. Yes sir.

Q. And that current is used, so far as you know, solely for the purpose of producing power and heat?

A. Yes sir.

Q. Does it require any different sort of apparatus? That is, so far as the wiring is concerned?

A. Yes, the wiring has to be some different, and current is supplied at a different voltage from the lighting current.

Q. Could the wires ordinarily used for the ordinary lighting purposes be depended on to carry current for heavy power purposes?

A. Yes.

Q. But you would have to change the voltage?

A. No, motors could be obtained adapted to the voltage.

Q. But it would require a different sort of motor?

A. Different sort of motor—from that ordinarily used except in the smaller sizes.

723 Q. I mean in the larger sizes?

A. I don't understand the question.

Q. Except for the larger purposes, that would be less economical to use motors of that sort?

A. Yes sir.

Q. Of course no one wire is capable of carrying near so much current—you can reach the limit?

A. Yes sir.

Q. As the demand for power increases, necessarily the demand for wires increases?

A. Exactly.

Q. Isn't that true?

A. Yes sir.

Q. Is there, as a rule, more than one wire, direct and return, to a motor?

A. One class of motors that is used very extensively requires three wires.

Q. Each motor?

A. Yes.

Q. That would require a return wire too?

A. Three, all told.

Q. Would a part of the duty of any of those wires be a return?

A. The whole three are in a way used as return wires—functions are all exactly alike, and the flow in the various wires changes from instant to instant.

Q. That is what you call a tri-phase system?

A. Yes or three-phase.

Q. It is necessary to have, in order to operate successfully with that sort of a system—to have three wires?

A. Yes sir.

724 Q. Have you any lighting system that requires three wires?

A. We have a lighting system in which three wires are extensively used, or could be supplied from two wires.

Q. The wires serving the ordinary incandescent light—how many wires are necessary for that purpose?

A. Two wires to each lamp, but in all the larger buildings the main wires running through the building are three in number.

Q. The wires leading to individual fixtures or lamps are two—they hook up with the customers' connections?

A. Yes.

Q. Either on the out or inside, as the case may be?

A. Yes, sir.

Q. But each motor—large power motor requires separately a three wire system?

A. That is a three phase—direct current motor requiring only two.

Q. I mean three-phase?

A. Yes, sir.

Q. These wires—are they carried underground in your system, or carried over poles or on poles?

A. Underground in the downtown business section of the city and on poles in the district further out.

Q. Do you know approximately the number of wires that your company has exclusively engaged in the carrying of current for power purposes?

A. You mean the number of circuits?

Q. Probably I had better use the term circuits?

A. Approximately fifteen used exclusively for power purposes.

Q. Is that in the Omaha district or would that include all the districts?

725 A. Include all the districts.

Q. Do you know how many in Omaha—let me ask this question first—all your plant is located in the city of Omaha?

A. The generating part is.

Q. Any circuit supplying anywhere would pass over and through a part of the city of Omaha in order to reach—

A. —No, we have secondary—sub-stations, and current is transmitted to them from the generating station and then over large heavy circuits, high voltage, and then distributed from there in numerous—

Q. —You have one in South Omaha?

A. Yes, and one at Benson and one in the north part of the city of Omaha, near Fort Omaha.

Q. But the wires leaving that circuit leaves Omaha and passes over a part of the city in order to get there?

A. Yes, sir.

Q. So, as a matter of fact, all of these circuits used for furnishing current for power, directly, or indirectly, passes over a part of the city of Omaha?

A. Yes, sir.

Witness excused.

726 MINOR R. HUNTINGTON, a witness called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHugh, and testified as follows:

Mr. McHUGH:

Q. Where do you reside?

A. 2508 North 18th, Omaha, Nebraska.

Q. Are you engaged in business in Omaha?

A. Yes.

Q. What business?

A. Omaha Bedding Company.

Q. What position do you hold in that company?

A. President.

Q. What is the business done by that company?

A. It manufactures mattresses.

Q. Where is your place of manufacture?

A. 1302-4-6 Nicholas Street.

Q. You utilize machinery done by the manufacturing of that company?

A. Yes, sir.

Q. How is that machinery operated?

A. By motor.

Mr. LAMBERT: Objected to as irrelevant and immaterial. The respondent also objects to any testimony in this cause for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved,

727 have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same case appealed to the Circuit Court of Appeals of the 8th Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second. Because at the time the said cause was pending in the Circuit Court of the United States for the District of Nebraska, and also in the 8th Judicial Circuit Court of Appeals, complainant in the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

Q. What is the fact as to whether all the machinery you operate is operated through motors by electrical energy?

A. It is.

Q. You may state what the fact is as to whether you have adjusted your plant and required necessary appliances put in to operate your machinery by electrical power?

Mr. LAMBERT: Objected to as calling for a conclusion of the witness, irrelevant and immaterial.

A. We have.

Q. Where do you get the power that is utilized in the operation of your machinery?

Mr. LAMBERT: Same objection.

A. Omaha Electric Light & Power Company.

Q. How long have you had your plant and machinery operated by electrical power?

A. Why, I think about ten years; I am not sure, but in the neighborhood of ten years.

728 Q. Is your plant equipped at the present time to be operated from any other source of power than electrical power?

Mr. LAMBERT: Objected to as irrelevant and immaterial.

A. No, sir.

Q. In installing your plant and acquiring your appliances to

enable you to operate your machinery with electrical power, what is the fact as to whether you depended upon the Omaha Electric Light & Power Company to furnish power to you?

Mr. LAMBERT: Objected to as calling for a conclusion of the witness, incompetent, irrelevant and immaterial.

A. We have.

Q. State generally, is that true of manufacturing of many establishments in the city of Omaha—do you know?

A. That I don't know.

Q. Then I will withdraw the question.

Cross-examination.

By Mr. LAMBERT:

Q. Of course you could operate your machinery with power furnished from any other company?

A. With a motor.

Q. Electric current furnished?

A. Yes.

Q. So you would not necessarily have to depend on this particular company?

A. I wouldn't suppose so if we had the power.

Q. If you could get it from other sources you could operate it by other current?

A. Yes, sir.

Q. Were you in charge of the company—of the business of your company at the time the arrangement was first made?

729 A. Yes, sir.

Q. Did you have any intimation at that time that the Omaha Electric Light & Power Company might not have the authority to continue furnishing the current?

A. No, sir.

Q. Then the dependency to which you testified did not depend upon any assurance or declarations or statements made by them as to their probable life or duration?

A. No, sir.

Q. You simply took them as they appeared to be, established in business in the city?

A. Sure.

Q. Furnishing power?

A. Yes, sir.

Q. It is also a fact, Mr. Huntington, that it would be possible to operate your plant by steam or by gas power if you made necessary changes for that purpose?

A. Yes, we would have to make another change.

Q. You don't know anything inherent in the business that would prevent its operation—

A. We could use any power if we had to.

Witness excused.

730 & 731 ARTHUR C. SMITH, a witness called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHUGH, and testified as follows:

Mr. McHUGH:

Q. You may state your full name?

A. Arthur C. Smith.

Mr. LAMBERT: The respondent objects to any testimony in this cause for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals of the 8th Judicial Circuit, this complainant sustaining a relation of privy to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second. Because at the time the said cause was pending in the Circuit Court of the United States for the District of Nebraska, and also in the 8th Judicial Circuit Court of Appeals, complainant in the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

732 By Mr. McHUGH:

Q. Where do you reside?

A. Omaha, Nebraska.

Q. Are you in business in the city of Omaha?

A. I am.

Q. In what business?

A. Wholesale dry goods.

Q. What is the corporate name?

A. M. E. Smith & Company.

Q. And your relation to the company?

A. President.

Q. You may state what is embraced in the business done by M. E. Smith & Company?

A. We are jobbers and importers and we are also very considerable manufacturers,—shirts, duck clothing, and also ladies' suits, skirts, garments, women's wearing stuff as well.

Q. Your manufacturing interests and plant are quite extensive are they not?

A. Yes, sir.

Q. And in that you utilize a number of machines?

A. Yes, sir, several hundred.

Q. With what power are those machines operated?

A. Electric.

Mr. LAMBERT: Objected to as irrelevant and immaterial.
(By agreement the objection comes in ahead of the answer.)

Q. Where do you get the current that furnishes your power to operate your machinery?

A. Omaha Electric Light & Power Company.

Mr. LAMBERT: Same objection.

A. Omaha Electric Light & Power Company.

Q. How long has your company utilized electric power in the operation of the plant here in Omaha?

733 Mr. LAMBERT: Same objection.

A. Let me see—about 25 years.

Q. What is the fact as to whether the installation of your plant with a view to its being operated by electric power involved the purchase and arrangement and establishment of certain appliances?

Mr. LAMBERT: Objected to as incompetent, irrelevant and immaterial.

A. We figured on different power at the time we moved into our new buildings, about five years ago, and a little over five years ago, and before putting in an up to date plant, from generating our own power, as I recollect it, the expense was approximately \$35,000.00.

Q. Now, you don't get exactly my idea, but in order to run by electricity, in order to utilize electricity, you may state what the fact is as to whether that involved your purchasing and installing of appliances?

A. Oh, yes.

Q. It did?

A. Yes, a very considerable amount.

Q. In involved adjusting your plant—your whole manufacturing plant, with that in view?

A. We had expert electrical engineers from Chicago that mapped out the whole thing and made the figures for us.

Q. And that applies to your new building in which you now carry on your business?

A. Yes, sir.

Q. What is the size of this building?

A. Two buildings, each 132 feet square, each with nine floors.

734 Q. You may state whether you have in your manufacturing plant today any other source of power to operate your machinery than the electrical power furnished by the company?

Mr. LAMBERT: Objected to as incompetent and immaterial.

A. No, sir.

Q. You may state what the fact is—what the effect on your plant and business would be to have to sever connection so as to deprive you of the service of the company in furnishing electrical current to you?

Mr. LAMBERT: Objected to as calling for a conclusion of the witness, and speculation, incompetent, irrelevant and immaterial.

A. It would, of course, put us out of business unless some other

electric agency similar in nature were able to supply us with power of the same voltage, and so forth at once, and throw a large number of employes out of positions until we could either get hooked up with another power company furnishing like power and like voltage, or put in an independent plant of our own.

Q. Are you, in a general way, acquainted with the commercial manufacturing interests of the city of Omaha?

A. Yes, I think so.

Q. Do you know what the fact is as to whether in the manufacturing interests of Omaha the use of electricity furnished by the Omaha Electric Light & Power Company is general as a power to operate machinery?

Mr. LAMBERT: Of course, your answer will be yes or no.

The WITNESS: Please read the question. (Question read.)

A. Yes.

Q. What is the fact in that regard?

735 Mr. LAMBERT: That is objected to as no proper foundation having been laid, calling for a conclusion of the witness, incompetent, irrelevant and immaterial.

A. Well, I think manufacturers generally in this town are using electric current, and they are doing it for two reasons: because they can but the current cheaper than they can produce it themselves, and secondly, of course, a diminution of fire hazard in having it generated outside.

Cross-examination.

By Mr. LAMBERT:

Q. It would be possible in your business, wouldn't it, for you to install an independent power developing plant?

A. Yes, sir.

Q. It would take some time?

A. It would take quite considerable time, yes; quite a considerable expense also.

Q. It is also possible, is it not, for you to use steam power by properly making the proper changes in machinery, and proper arrangements; that is, there is nothing inherent in the work you do that steam power would not accomplish?

A. The way we are hooked up we would have to generate the steam power and transform it into electricity; we could make the steam power, but our plant is pretty small for that; as I have said, we have all these motors, and we would have to make electricity too—all our machines run by electricity and by direct motors at the end of shafting, and we have practically no building at all so we couldn't run with steam except to generate our electricity first, and then operate similarly as we are doing now.

736 Q. There is nothing inherent in the business that requires electric power, and no other power?

A. It is a question of cost; I wouldn't say you couldn't use any other, but, located as we are it wouldn't be advisable.

Q. At this time, and under the circumstances?

A. Yes, sir.

Witness excused.

737 THOMAS C. BYRNE, a witness, called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHugh and testified as follows:

By Mr. McHUGH:

Q. You reside in the city of Omaha?

A. Yes, sir.

Mr. LAMBERT: The respondent objects to any testimony in this cause for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals of the 8th Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second. Because at the time the said cause was pending in the Circuit Court of the United States for the District of Nebraska, and also in the 8th Judicial Circuit Court of Appeals complainant in the instant case was fully advised of the issues and questions, involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

By Mr. McHUGH:

Q. Are business here?

A. Yes, sir.

738 Q. Are in business here?

A. Yes, sir.

Q. What is the corporate name of your company?

A. Byrne-Hammer Dry Goods Company.

Q. What relation do you sustain to that company?

A. President.

Q. What business is conducted by your company—that is, generally?

A. We are wholesale dealers in dry goods and notions and furnishing goods, manufacturers of men's working garments, shirts, and overalls.

Q. Is your manufacturing department an extensive one for your line of business?

A. We employ about three hundred people in the factory.

Q. The factory is located in the city of Omaha?

A. Yes, sir.

Q. In the carrying on of the work of manufacturing you employ a number of machines?

A. Yes.

Q. How are those machines operated? With what power?

A. They are driven by motors—electric power.

739 Q. Where do you get the electric current that operates these motors and machines?

Mr. LAMBERT: Objected to as immaterial and irrelevant.

A. From the Omaha Electric Light & Power Company.

Q. How long has your plant or factory been operating by electric power, Mr. Byrne?

A. Ever since we started in business.

Q. About how many years?

A. Twelve years—twelve years November 1st.

Q. During all that time you have obtained your electric current from this same company?

A. Yes.

Mr. LAMBERT: Objected to as irrelevant and immaterial.

Q. You may state what the fact is as to whether—

A. —Mr. McHugh, I will have to correct that answer—for a short time we got current for our machines from the street railway company.

Q. When was that?

A. I couldn't tell just when we changed. The power, however, was not entirely satisfactory to our operations—the voltage was too heavy, I think.

Q. Now, to equip your factory so that machines could be operated by electric motors involved an arrangement of the plant and the purchase of a number of appliances such as motors, etc., didn't it?

Mr. LAMBERT: Objected to as incompetent, irrelevant and immaterial.

Q. To operate electrically it required—that is what I meant—I will withdraw the question—just withdraw the question—what did you do that you might operate your plant by electric power?

740 Mr. LAMBERT: Same objection.

Q. What arrangements were made—what equipment purchased—state generally—you re-arranged your plant—we don't care for details?

A. We simply bought a motor for each floor that were carrying machines by which to drive the machines.

Q. Have you any other—

A. I think the power of the motors is about 15 horse power on each floor.

Q. How many floors do you operate?

A. We have had factories in Omaha and South Omaha; recently we discontinued the South Omaha factory, at least temporarily, and now operate two floors in our own building at 10th and Howard.

Q. You may state whether or not your factory is equipped—

A. —Started the building at 10th and Howard—

Q. You may state whether or not your factory is equipped at the present time to utilize in operating your machines any power other than electric power?

Mr. LAMBERT: Same objection.

Q. Have you any steam engine, or any other—

A. —To operate without electric power we would have to put in a steam plant which is not being used for manufacturing in this city—manufacture or product—it would be altogether impractical.

Q. You may state, Mr. Byrne, whether you are in a general way familiar with the conditions that obtain in the manufacturing interests here in the city of Omaha?

741 A. I have no exact knowledge of what other people are doing in a general way?

Q. Your knowledge would be necessarily a general knowledge?

A. Yes, sir.

Q. What is the fact as to whether you have a knowledge sufficient in general to know whether or not electricity is generally utilized as a motive power here in Omaha in the manufacturing business,—instead of generally, I will use commonly—commonly used?

A. I think that is the power that is being used in the factories very generally here.

Mr. LAMBERT: I expected a different answer; that is objected to as incompetent, irrelevant and immaterial.

Witness excused.

742 CLYDE L. BABCOCK, a witness, called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHugh, and testified as follows:

By Mr. McHUGH:

Q. You live in Omaha, Mr. Babcock?

A. Yes, sir.

Mr. LAMBERT: The respondent objects to any testimony in this cause for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals of the Eighth Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second. Because at the time the said cause was pending in the Circuit Court of the United States for the District of Nebraska, and also in the Eighth Judicial Circuit Court of Appeals, complainant in

the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

743 Q. In what business are you?

A. I am associated with the Updike Grain Company—secretary.

Q. The Updike Grain Company is doing a general grain business?

A. It is.

Q. Has it any elevator?

A. It has at South Omaha.

Q. What is the capacity of that elevator?

A. About half a million bushel.

Q. Is that the only plant the Updike Elevator Company operates?

A. Yes.

Q. Here?

A. Yes.

Q. In that elevator, and in its operation, is there any machinery used?

A. Yes; elevating machinery, cleaning machinery, and other machinery such as they use in an elevator of that kind.

Q. How is that machinery operated? What Power is used?

A. It is operated by electric motors.

Q. From what source do you get the electrical energy that is utilized?

Mr. LAMBERT: Objected to as incompetent, irrelevant and immaterial.

744 A. It is from the Omaha Electric Light & Power Company.

Q. How long has that elevator been, and the machinery in that elevator been operated by electricity?

A. About seven years.

Q. Is the elevator equipped to operate any other power—to be operated by any other power than electric power?

A. It is not.

Mr. LAMBERT: Objected to as irrelevant and immaterial.

Q. What would be the effect on the business of the Updike Grain Company if the wire carrying the electricity to your elevator would be cut and no current furnished?

Mr. LAMBERT: That is objected to as calling for a conclusion of the witness, as a speculation on the part of the witness, incompetent, irrelevant and immaterial.

A. Why, it would be necessary for us to make some other arrangements for power.

Q. That would involve a complete re-arrangement of your plant?

A. Well, it would be necessary to either rearrange the plant or build an electric power plant of our own.

Q. Now, are there other grain elevators operated in and about Omaha?

A. Yes.

Q. About how many?

A. I might enumerate them.

Q. Yes?

A. Holmquist Elevator Company, Merriam & Millard, Crowell Elevator Company, Independent Elevator, Nebraska-Iowa Grain Co., Trans-Mississippi Grain Company; that is on this side of the river; that is most of them.

Q. You are familiar with these elevators in a general way?

A. Yes, sir.

745 — You may state what the fact is as to whether they are all operated by electricity?

A. As far as I know those houses I have mentioned are all furnished with power.

Q. By this company?

A. Yes, sir.

Q. All operated by electric power?

A. Yes, sir.

Q. And they are all equipped with appliances to utilize electric power in the operation of the plant?

A. I think they are, yes.

Cross-examination.

By Mr. LAMBERT:

Q. You are not certain about that are you, Mr. Babcock—the last answer you made whether all those elevators——

A. —I have been in most of the elevators; I am not certain about the Merriam & Millard I mentioned.

Q. Of course your elevator, and the other elevators could be operated by an independent plant built for that purpose?

A. They could be, yes.

Q. You own the motors, apparatus, machinery, and so forth in the elevators at South Omaha?

A. Yes; at our elevator we own the motors, machinery.

Q. Within the elevators?

A. Within the elevators.

Witness excused.

746 It being now 4:30 P. M. the further taking of depositions was adjourned until 10:00 A. M. tomorrow, June 8, 1912.

In pursuance of above adjournment, the further taking of depositions was resumed at 10:00 A. M. June 8, 1912.

LOUIS KIRSCHBAUM, a witness, called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHugh, and testified as follows:

By Mr. McHUGH:

Q. Give your full name?

A. Louis Kirschbraum.

Mr. LAMBERT: The respondent objects to any testimony in this cause for the reason that the issues involved in the case of the Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals of the Eighth Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second: Because at the time the said cause was pending in the Circuit Court of the United States for the District of *in the*
747 *Circuit Court of the United States for the District of* Nebraska, and also in the 8th Judicial Circuit Court of Appeals, complainant in the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

Q. You may state your residence?

A. Omaha, Nebraska.

Q. In what business are you engaged?

A. Manufacturing creamery butter; eggs, cold storage, fruits.

Q. Where is your plant located?

A. 509-11 Howard Street, Omaha, Nebraska.

Q. In the operation of your plant do you utilize machinery?

A. Yes sir.

Q. How is that machinery operated—what motive power?

A. Electric power.

Q. How long have you had your plant and its machinery operated by electric power?

A. I don't know; it has been a pretty long time, somewhere around 15 or 20 years; 15 years anyway, I guess.

Q. Fifteen or more years—fifteen or twenty years?

748 A. I don't remember as that long; about 15 anyway.

Q. You can say at least 15 years?

A. Fifteen years.

Q. From what source do you get the current?

Mr. LAMBERT: Objected to as irrelevant and immaterial.

A. From the Omaha Electric Light & Power Company.

Q. You may state what the fact is as to whether your plant in order to utilize electric power had to be equipped for that purpose?

A. At the time?

Q. Yes?

A. Yes, before we put the plant in we went to the Electric Light Company to see whether we could get power from them; of course, otherwise, we would have put in a different kind of plant.

Q. You found you could get power from them?

A. Yes.

Q. Then what did you do with respect to your plant?

A. We put it up in view of getting power—with expectation of getting power from this company.

Q. And equipped with motors, and wires, and appliances to utilize the power?

A. Yes sir.

Q. Have you any other source of power?

A. I have not.

Q. Except the one that you mentioned?

A. No sir, I have not.

Q. What would be the effect on your business if the wire carrying the current you utilize for power was cut so you couldn't utilize that power?

749 Mr. LAMBERT: Objected to as calling for a conclusion of the witness, for speculation on the part of the witness, incompetent, irrelevant and immaterial.

A. Why, if the wires were cut right now why it would spoil a lot of stuff for us, we run a refrigerator plant, a lot of eggs in cold storage would naturally spoil.

Q. What is the fact as to whether in the operation of your business, in carrying it on from day to day, you are dependent upon the Omaha Electric Light & Power Company to furnish you the electric power that you utilize?

A. We are, yes.

Mr. LAMBERT: Same objections, for the reason stated.

Q. You are, in a general way, I suppose, familiar with the way manufacturing or commercial plants in Omaha are conducted,—in a general way?

A. I didn't quite catch your question.

Q. How long have you lived in Omaha?

A. About 25 years.

Q. You have been in business all that time?

A. Yes sir.

Q. And have kept pace with the business of the city?

A. Yes sir.

Q. And are in a general way familiar with the business situation in Omaha?

A. Yes sir.

Q. What is the fact as to whether the electric power furnished by this Omaha Electric Light & Power Company is generally utilized in Omaha by commercial and manufacturing plants?

A. I think it is to a very great extent.

Q. And the plants—the commercial and manufacturing here in Omaha are quite generally equipped and adapted to that use?

750 A. I believe they are; a good many of them.

Q. So far as your observation goes?

A. Yes sir.

Cross-examination.

By Mr. LAMBERT:

Q. Mr. Kirschbraum, the motors and apparatus that you have for power purposes in your plant, of course, could be operated by current from any source from which you could obtain it, whether it was by your own plant, if you should install one, or from some other company's current?

A. I suppose it could, yes.

Q. Your arrangements for electric power, and your appliances are not necessarily adapted to the particular current which this company furnishes, is it?

A. Well, we have two different currents there—alternating and direct; now I don't know of any other company furnishing any alternating current.

Q. But if an alternating current could be furnished by another you could utilize it?

A. Yes.

Q. Or, if it were furnished by your own production, you can utilize it?

A. Yes sir; *we*;;, the only trouble would be we wouldn't have the room to make our own current.

Q. You have not now, but you could provide that?

A. Yes, that would be a pretty heavy expense.

Q. I understand that?

A. We would probably have to change around considerably there if we would want to make our own current, or use steam
751 or some other power.

Redirect examination.

By Mr. McHUGH:

Q. If current was furnished by some other company it would have to be the kind of current that you utilize now?

A. Yes.

Q. In order to be available for the appliances used now?

A. Yes, the motors are adapted for this current; of course, we would have to have the same.

Witness excused.

752 FRANK B. JOHNSON, a witness called on behalf of the complainant, after being duly sworn, was examined in chief by Mr. McHugh, and testified as follows:

By Mr. McHUGH:

Q. State your name in full?

A. Frank B. Johnson.

Mr. LAMBERT: The respondent objects to any testimony in this cause for the reason that the issues involved in the case of Old Colony Trust Company vs. The City of Omaha, and the questions therein involved, have been heretofore definitely adjudicated in favor of the respondent, and have been set at rest in the case of the Omaha Electric Light & Power Company vs. The City of Omaha, heretofore tried in the Circuit Court of the United States for the District of Nebraska, and in the same cause appealed to the Circuit Court of Appeals of the Eighth Judicial Circuit, this complainant sustaining a relation of privity to the said Omaha Electric Light & Power Company, and, therefore, bound by the adjudication in said cause.

Second: Because at the time the said cause was pending in the Circuit Court of the United States for the District of Nebraska, and also in the Eighth Judicial Circuit Court of Appeals, complainant in the instant case was fully advised of the issues and questions involved in said litigation, and had failed to appear, or make such appearance therein, and for that reason it is estopped at this time, and in this action, from relitigating questions determined in said cause.

Q. In what business are you engaged?

A. In the printing and stationery business.

753

Q. What is the name of the corporation that you conduct?

A. We have two; the Omaha Printing Company and the Beacon Press.

Q. What is your relation to the company?

A. Secretary and treasurer.

Q. You are in active touch with the business?

A. Yes sir.

Q. In the carrying on of the business of those companies is there involved the use of machinery?

A. Yes sir.

Q. Quite extensively?

A. Very much so.

Q. How is this machinery operated by this company?

A. By electric power.

Q. How long has this electric power been utilized by the company as motive power?

A. For the past twenty years.

Q. From what company do you get the electric current?

By Mr. LAMBERT: Objected to as incompetent, irrelevant and immaterial.

A. Omaha Electric Light & Power Company.

Q. That has been true during this time?

A. Yes, in fact it is the only place we could get power.

Q. You may state what the fact is as to whether these companies in the operation of their plants are dependent upon the Omaha Electric Light & Power Company for the power you utilize?

Mr. LAMBERT: Objected to as calling for a conclusion of the witness, a speculation on the part of the witness, incompetent, irrelevant and immaterial.

A. We are entirely dependent on them.

754 Q. You may state what the fact is as to the adaptation of the plants of these companies to the use of electricity as motive power?

A. In what—

Q. I will withdraw that question—I will put it this way—what is the fact as to whether these plants operated by the companies are adapted to the use of electric power by installation or appliances, motors, wiring, etc.?

A. They are entirely fixed up for that.

Q. What is the fact as to whether in the installation of the plant and the rearrangement of the plant and the machinery, the utilization of electrical power was considered, and controlled in the arrangement of the plant?

A. Based entirely upon the arrangement wherein we could get power from the Electric Light Company.

Q. You have resided in Omaha for how many years?

A. About forty years.

Q. You are familiar with the commercial and manufacturing industries in the city of Omaha in a general way?

A. Yes sir.

Q. And are familiar with the development of the commercial and manufacturing interests of the city?

A. Yes sir.

Q. What is the fact, Mr. Johnson, with respect to the use of electricity for electric current furnished by the Omaha Electric Light & Power Company by the various commercial and manufacturing industries?

A. There is no other power in a general way that could be utilized to advantage; it is much cheaper, and much better, and much more satisfactory than any other power we could get, and the only other power we had before this came in was steam, and that was
755 very unsatisfactory and rather expensive.

Q. What is the fact as to the commercial industries and manufacturing establishments of Omaha being adapted and adjusted to the utilization of the electrical energy furnished by the Omaha Electric Light & Power Company?

A. Before this electric power was put in they were all adapted to steam and in the putting in of the electric power you had to reorganize your appliances entirely and change the entire system,—one is no good so far as coming up to the other.

Q. What is the fact as to whether the industries and manufacturers, and commercial plants in Omaha have been generally readjusted from the old dependence on steam to the new dependence on electric power?

A. Why, I don't believe there is scarcely a plant in Omaha operating that uses power except electricity; in the former days when they had their plants operated by steam it was an unsatisfactory condition and things would get out of order more or less, and after the electric power was started in Omaha in the various places it was so much more satisfactory to every one they threw out the steam power.

Cross-examination.

By Mr. LAMBERT:

Q. There are some businesses in Omaha have their own electric plants?

A. Very few.

Q. But some?

A. I don't know of one in Omaha that operates its own electric power plant; there are some that operate their lighting plants—not their power plants; in fact, I don't believe there is any in Omaha; I don't believe there is one, Mr. Lambert.

Q. The new Woodmen building is being so arranged isn't it?

A. That is not for power; it is for their own lighting.

Q. Operates its own elevator system?

A. We don't regard that in a manufacturing light; it might be for elevator purposes.

Q. That is true for elevator purposes in the bank building, or do you know?

A. I don't know. I know Mr. Mohler of the Union Pacific took up the proposition about whether to put in their own plant, or arrange with the Electric Light & Power Company—to use their power for elevators and also for lights in the building. He came to the conclusion he could do better and not put their own plant in that large building. You furnish the light and power to the Union Pacific, Mr. Holdrege.

Q. Your appliances and apparatus for power in your factory are such if you developed your own energy it could be used by your appliances?

A. Well, I don't know; it would mean a large cost to us.

Q. I don't mean that, but if you were furnished with the same current that you now use, the source of supply would be immaterial—you could use the current with your appliances.

A. Why, I presume so, although I am not certain about it; I never investigated that proposition.

Q. I suppose the street railway furnishes some power for power purposes?

A. In remote cases I know they have. Now I am very close to the street railway company and they never solicited us at any time for power; I think at times they scarcely have power enough to run their street car company.

Q. They furnish some, however?

A. They do in a limited way.

Witness excused.

758 Mr. McHUGH: We now offer in evidence an article entitled "Edison's Electric Light" found in Scribner's Monthly Magazine of February, 1880, beginning on page 531 and ending on page 544, including the certificate of Mr. Thomas A. Edison under the title, it being admitted that this Scribner's Magazine was a monthly magazine in general circulation throughout the United States, being marked Omaha Exhibit No. 22; it being agreed that

the reporter may copy said article, and identify the same by exhibit number mentioned.

Mr. LAMBERT: To the offer of Omaha Exhibit No. 22. the respondent objects as incompetent, irrelevant and immaterial.

Mr. McHUGH: To save expense in printing, the complainant does not offer the cuts which in the magazine article accompanies it:

Following is a true copy of Omaha Exhibit No. 22. H. E. K.

"Edison's Electric Light.

By Francis R. Upton (Mr. Edison's mathematician.)

Editor Scribner's Monthly.

DEAR SIR: I have read the paper by Mr. Francis Upton, and it is the first correct and authoritative account of my invention of the Electric Light.

Yours truly,

THOMAS A. EDISON.

Menlo Park, N. J.

759 The crowning discovery of Mr. Edison—the electric light for domestic use—is at last a scientific and practical success. A mistaken idea has been afloat that this new light was intended to be a rival of the sun, rather than what it really is,—a rival of gas. The contrivances of the new lamp are so absurdly simple as to seem almost an anti-climax to the laborious process of investigation by which they were reached. A small glass globe from which the air has been exhausted, two platinum wires, a bit of charred paper—and we have the lamp. The generator of the electricity is simpler than a gas generator, and the wires for its distribution are more manageable than are gas mains and pipes. The light is equal to gas in brightness and whiter in color; it is inclosed and, consequently, perfectly steady; it gives off no appreciable heat; it consumes no oxygen; it yields up no noxious gases, and, finally, it costs less than gas. The difficulty of subdivision Mr. Edison has also overcome; in his method of illumination a number of separate lights can now be supplied from the same wire, and each one, being independent, can be lighted or extinguished without affecting those near it.

In order to a clear comprehension of the electric light, a few words upon the general subject are necessary. All illuminants are 760 produced by the incandescence or white heat of matter. This matter may either be in a finely-divided state—the particles widely separated—as in the flame of candles, lamps and gas jets, or an aggregation of particles, as in the calcium light. Both of these methods have been used in the various systems of electric lighting. Electricity flowing through a conductor generates a quantity of heat proportioned 1, to the amount passing through, and 2, to the friction, or resistance of the medium. Ordinarily, the amount is hardly appreciable in a good conductor. When, however, a poor conductor forms part of the electric circuit, a heat is generated that, under certain conditions, rises steadily to whiteness, causing the substance

forming the imperfect conductor to become luminous. If the wire of an electric circuit be cut and the two ends, after being touched, are drawn slightly apart, the current leaps the chasm and a spark appears which vaporizes a small portion of the metal, and this forms sufficient conductor to enable a constant electrical current to flow from end to end of the wire. When the two ends of the severed wire are properly tipped, a continuous and brilliant light may be produced. Carbon is found to be the best material for these tips, and so long as the current flows and the distance between the points is properly regulated, a storm of white-hot carbon particles is carried across the space, giving a brilliant illumination. This is the
 761 voltaic arc, a light produced by the incandescence of finely-divided matter. The broken circuit may be completed by the interposition of some solid matter capable of sustaining a white heat without melting. Platinum and carbon were long thought to be the forms of matter which would best answer the purpose.

These methods of utilizing electricity presented so many difficulties that it was thought impossible to use either for domestic purposes. The objections to the voltaic arc were that the carbon did not offer sufficient resistance to the passage of the current, and that it wasted, the light therefore requiring either continued attention, or else some complicated mechanism, both troublesome and expensive, to keep the distance between the carbon points constant. (See Fig. 3.) The objections to platinum lay in its great cost and rarity, and the fact that its point of fusion is too low to insure its successful use as the source of light. And finally the objection to all known methods was that the conductors necessary to the supply of any lamp then known would have been of such enormous cost and size as to be impracticable for general use.

In order to understand the difficulties of the problem presented to Mr. Edison, and the simple perfection of his lamp, a short summary of the history of the electric light will be necessary. The first method of illuminating by electricity was by voltaic arc. About
 762 twenty years after the discovery of galvanism, or the modes of generating electricity by chemical decomposition, the voltaic arc was discovered by Sir Humphrey Davy. The battery of a single cell was succeeded by those of multiplied power. In 1812, by the use of a battery of 2000 cells, Davy succeeded in producing an intensely brilliant arc measuring five inches. The experiment was, however, a very costly one, and had apparently no practical outcome; yet the effects produced by it were so brilliant that Professor Dumas, who repeated it in Paris in 1834, predicted its final success as an illuminant, in spite of the enormous cost—six dollars a minute. For a number of years no improvement was made, the batteries then in existence being incapable of supplying a constant and steady flow of electricity. Daniell's invention in 1836 of a constant battery, used still in telegraphy, and Grove's improvement in 1839, of electrical generators, gave a new impulse to inventors. A constant and powerful current being supplied by these two inventions, the practical use of it was shortly afterward made in Morse's telegraph. In 1845, about the same time, we find the first mechanisms for regulat-

ing the distance between the carbon points were independently invented by Straite and Foucault, who thus, in another direction utilized the electrical power supplied by the batteries. Straite's patents show great inventive genius; in one of them there is a well defined suggestion of the widely known Jablochkoff candles.

763 In this field of research, as in so many others, the earlier investigators possessed a clearness of vision which enabled them to see further and more accurately than those who came after. Straite, before 1850, produced an electric light which was exhibited in England, and was so favorably received that a company was organized and gas stock suffered a panic. Many other inventions were made with a vast expenditure of time, ingenuity and patience, which, like those of Straite and Foucault, failed because of their great cost. It — not enough to invent a good light, nor even to perfect its mechanism; the cost of production must be small enough to enable it to compete with all existing methods of illuminating.

Electric lighting had now passed through three stages. It had been a brilliant laboratory experiment, it had been the subject of practical investigation, and it had been advanced to the precarious dignity of occasional use in the theatres and on great festal occasions. At the coronation of Alexander of Russia, the city of Moscow was lighted by numbers of electric lights suspended in the old bell tower of the Kremlin, a thousand gilded domes glittering in the unearthly radiance, in happy contrast with the quaint arches of the old cathedral close at hand, while the river Moskva was transmuted into a stream of liquid silver.

The year 1860 saw improvements in generators. The force of steam was found to be convertible into electricity. In 1862 Faraday introduced the electric lamp into a British light-house.

764 France and Brazil tried the same experiment, but even this failed to arouse public interest. The invention of the Gramme generator (though an instrument fully anticipating it had been lying for years in the cabinet of an Italian university) at last gave the impetus needed to set the inventors at work. This was soon followed by the Jablochkoff candles, the contrivance by which some streets in Paris are illuminated. So much for the history of illumination by the voltaic arc.

In 1845, to go back to the second method—that of illuminating by an incandescent solid—an American named Starr, backed by George Peabody, went to England and took out a patent for the use of platinum, which had been already employed in laboratory experiments, although it had never been used for practical purposes. In the same year Grove speaks of reading by an incandescent platinum spiral.

In 1847, Dr. Draper, of New York, made a number of experiments to test the qualities of highly heated platinum. He used a lever suspended by a straight wire, very much resembling a door latch held by a string. So marked was the illumination from, and the expansion of the heated wire at the temperature required for the experiment that he wrote: 'An ingenious artist would have very little difficulty, by taking advantage of the movement of the lever, in making

a self-acting apparatus in which the platinum wire should be maintained at uniform temperature, notwithstanding any change
765 taking place in the voltaic current.' This suggestion, though so clear and practical, lay for twenty years unheeded, and would probably have done so much longer, but that Mr. Edison, with no knowledge of it, entirely independently made use of a similar device and proved himself to be the 'ingenious artist' in his first electric light invention.

Fig. 1 shows the plan of the apparatus. # (the portions marked black in cut are insulated)

The current enters through the curled wire at the left, and flows from one post P, to the other, P, through a spiral and out at the right. It is carried to the top of the glass case, G, then through the straight wire, W, at the lever at A, then to the hinge H, so that it escapes at the right. In passing through the straight piece of platinum wire, W, enclosed in the spiral the heat generated by the current causes the wire to expand. This expansion allows the lever L, to fall until it touches the point, B. When this is done the electricity takes the short route through the lever and does not pass through the lamp. The wire, W, contracts and the process is repeated.

Another method of accomplishing the same purpose is shown in Fig. 2. The current passes in this case through the wire W. In so doing it heats the air in G. The air in expanding forces down the small metal bellows which is connected with the chamber, until the lever attached below closes the break B, and short circuits the
766 lamp, allowing the air to cool. These two inventions really belong to the infancy of electric lighting, though invented by Mr. Edison only a short time ago.

In 1849 Despretz describes a series of experiments on sticks of incandescent carbon, which were sealed in a glass globe, the air being exhausted, or nitrogen substituted for it. He used several ingenious methods for holding the carbon—patented within the last few years. So completely had the mode of lighting by an incandescent solid been forgotten, that in 1873 a medal was bestowed by the St. Petersburg Academy on Lodyguine for its supposed discovery, and letters-patent were granted to Sawyer and Mann for a stick of carbon rendered incandescent in nitrogen. No successful light by incandescence had, however, been produced when Mr. Edison began his experiments.

In 1878 the lighting of Paris by the Jablochkoff candles was creating a great stir. It had been proved that electricity was really a rival of gas, and that especially where great concentration was needed, it could take its place. The question now was whether light could be produced in such small amounts as to make it of general domestic use. The money value of an invention which could compete with gas may be judged from the following items: The United States has \$400,000,000 invested in gas, New York and the vicinity
767 owning about \$35,000,000 of this; England has \$500,000,000 \$60,000,000 of which is in London. Paris has \$40,000,000; Germany \$50,000,000, etc. Capitalists, with these figures before them, and the further fact that notwithstanding the great

depreciation in plant, the larger portion of this enormous capital was drawing ten per cent., were quick to see an opening for their money and enterprise. Several New York gentlemen, Mr. Grosvenor P. Lowrey and members of the eminent banking houses of Drexel, Morgan & Co. being the most prominent, placed \$100,000 in cash at Mr. Edison's disposal, as the requisite means to make the research.

Mr. Edison came to the investigation unhampered by the blunders of his predecessors. He had never seen an electric light. He took hold of the subject in his usual clear-headed practical way. Next to solving a problem, its intelligent statement is to an investigator the most important thing. Mr. Edison saw that permanence in the lamp and a subdivision of the light were the main things to be sought after. Of the two methods already described, he soon discarded the carbon arc. He perceived that from its nature this arc was inconstant, as its very existence depended upon the destruction of the carbon, and also that it presented greater difficulties in the way of subdivision. Even if he succeeded in conquering the latter difficulty, and was enabled to produce small lights, the carbon rods

waste so rapidly that a system of such lamps would require
768 an expert for every four or five houses to keep it in working order. The most effective apparatus then devised was Foucault's regulator, Fig. 3, which it will be seen is a very complicated piece of mechanism. The Jablochkoff candles, simple as they appear to be, require mechanical contrivances to light them and keep them burning, each candle lasting only a few hours, which makes the constant expense for new burners more than that of the electricity which they can utilize. Mr. Edison, therefore, concentrated his attention wholly upon the light from an incandescent solid.

The advantages of subdivision are twofold and may be explained in a few words. To show that a good gas jet or German student's lamp gives, near the source of light, all the illumination necessary for ordinary domestic purposes, a single experiment may be tried. A printed page directly under the light, will be seen to be brightly illuminated. After carefully noting this, let another equally strong light be kindled. The room will be brighter, but the page will appear to be scarcely brighter. This is because beyond a certain limit the eye becomes insensible to light. One therefore gains nothing for ordinary use from a single intensely brilliant light. The object of such an illumination being of course to bring, by means

of several moderate lights, all parts of the room up to that
739 point where the eye, before it begins to be numb, can utilize the light. This explains the first advantage of subdivision; the second is of another kind. Every one familiar with the electric light, as it has been exhibited, knows that the intense brilliancy of the light and the sharp definition of the shadows, as well as their depth, makes it most trying to the eyes. The same amount of light distributed among a number of burners would not give more illumination, but it would be of more practical value; the light would be more diffused, the contrast between light and shadow less sharp and startling. Fig. 4 shows the effect of a shadow from a single brilliant carbon light, and Fig. 5 the effect from several shaded lights; the

advantage of the latter for practical and domestic use will be readily seen. This is equally true with other illuminators though gas may be made to give out a brighter illumination per cubic foot when burned in a concentrated form, it is yet more grateful to the eye and less trying when burned as a number of small lights, so that sharp contrast shall be avoided. It is also found that the shape and size of flame, apart from the quantity of light emitted, makes a great difference in this respect,—a large light softening the edges of the shadows. The shading of a light, although it obstructs illumination, is useful in dif-using it.

As has been said, Mr. Edison came to the subject un-
 770 hampered. He saw that subdivision was his goal, and toward that he steadily worked. With a steadfast faith in the fullness of nature, a profound conviction that, if a new substance were demanded for the carrying out of some beneficial project, that substance need only be sought for, he set to work. Two examples of the reward of his faith may be mentioned. One of the great difficulties in the way of illuminating by an incandescent solid—a difficulty constantly urged as insuperable—was that platinum, though the most infusible material which could be drawn into a wire, still melted at a temperature too low to insure its successful use. Mr. Edison, by experimenting, found that by slowly raising a piece of platinum to a white heat in a vacuum, he could make a practically new metal, the fusing point was so greatly raised. Again, Mr. Preece, chief government electrician in England, declared, and was sustained by many others, that subdivision of the electric light was impossible, because of the enormous size of the conductors and the number of Faradic generators necessary. Edison simply introduced into his lamp an increase of friction or resistance to the electric flow, and the problem was solved.

Mr. Edison's idea in regard to the electric light was that, in all respects, it should take the place of gas. Following the analogy of water, the inventor conceived of a system which should resemble the Holly water works. As the water is pumped directly into
 771 pipes which convey it under pressure to the point where it is to be used, so the electricity is to be forced into the wires and delivered under pressure at its destination. In the case of water, after being used, it flows away by means of a sewer pipe and is lost. But it is easy to imagine that the water used in working machinery, for instance, instead of being lost, might be returned to the pumps and used over and over again. With such a system as this, we should have a perfect *analog* to the Edison electric lighting system. The electricity, after being distributed under pressure and used, is returned to the central station. As the light results from no consumption of a material, but is mere transmutation of the energy exerted in the pumping process, it is therefore seen that all which is essential to an electric lighting system is the generator (or pump) the two lines of wire, one distributing the electricity, the other bringing it back, and a lamp which transmutes into light the energy carried by the electricity when it passes from one wire to the other and in which the energy of the pressure expresses itself as the light. In

Edison's invention the amount of electricity delivered in the lamp is determined by the size and resistance in the carbon, just as in water the amount of flow is determined by the size of the openings. As a great many small jets of water can be supplied from one pipe, so a great many lamps or small escapes for electricity can be furnished from one wire.

772 As in the case of water, the amount of work done by electricity—either as illuminant or motor is dependent quite as much upon the pressure from which it escapes as upon the quantity passing through the wires. We might have a system of lamps which would give a certain amount of light from large quantities of electricity escaping under low pressure, or another system which could give an equal amount of light from a small quantity of electricity escaping under high pressure. As in either case the amount of electricity flowing through a wire is in proportion to the size of the wire, it will be readily seen that the application of pressure made by Mr. Edison obviates the main difficulty in the way of subdivision (i. e., in the way of the domestic use of the electric light), namely, the enormous cost and size of conductors. The well known principle of the effect of pressure upon the dynamic power of electricity had never been utilized because the proper lamp was still unknown. This lamp is Mr. Edison's main discovery. In order to utilize this, one of the plans devised by him was to make the flow of electricity intermittent. Enough was allowed to escape in a short time, say one-third, to keep the lamp all the time supplied. It of course would require a large wire to furnish the quantity of electricity needed, yet two-thirds of the time the wire would be inactive, during which period it could be used to supply two other lamps constructed upon the same principle. According to the doctrine of probabilities, one-third of a large number of lamps would be in use all the time. Such being the case, the cost of a conductor would be divided among three lamps. The lamps were so constructed as to burn steadily all the while, although the electricity was passing through them only one third of the time.

One form of apparatus for accomplishing this distribution among several lamps on the same electrical circuit is shown in Fig. 6. The current conducted by a single wire enters the wire O, from the lower left hand corner and flows through the spring S, by way of B and B; upward through O, around the magnets M, M and out through the lamp. B, B are two points where the circuit can be broken if the spring S is depressed. Two points are made in order that the spark caused by the breaking of the circuit may be made less by division. The spring S is depressed by the arms C C, which are attached to the armature, A, by the rod R. The action is as follows: The current renders the magnet active, it attracts the armature, A and presses the spring S, under, stopping the flow of electricity by breaking the circuit at B B. The magnet thus losing its power, the armature is drawn back by the spring to which it is attached, and the apparatus is ready to work again. The period of this vibration may be regulated by means of a screw underneath, which can make the excursion of the armature more or less before it breaks the circuit, or can even act to break the circuit itself.

In making an electric lamp which would be efficient without a regulator (as is Mr. Edison's latest invention) two things are essential, great resistance in the wire, and a small radiating surface. Mr. Edison sought to combine these two essential conditions by using a considerable quantity of insulated platinum wire wound like thread on a spool. This arrangement is shown in Fig 7. The spool was made of zircon, pressed extremely hard, and was to be suspended in an exhausted glass bulb by two leading wires. The platinum, as has been incidentally mentioned, was hardened by alternate heating and cooling in vacuo, which is done by passing electricity through it till white heat is reached and then cutting it suddenly off. A theory is that the sudden cooling contracts the metal and squeezes out the air contained in it.

One of Mr. Edison's greatest difficulties was to get a substance with which to insulate his wires that would not melt and also become a conductor in the intense heat generated by the current—in which case the electrical flow instead of traversing the whole length of the wire would flow across from layer to layer, or sidewise from wire to wire. This difficulty diverted his attention from platinum

775 to carbon, which is infusible. He did not suspect at first, that it could be made to offer sufficient resistance to the passage of the electric current, and that through it he was to reach a happy solution of the entire problem. A long time was spent, with a fair degree of success, in seeking to make a spiral of lampblack tar in the form of a wire. To hold this together he used a bit of ordinary sewing cotton which was covered with lamp-black, and succeeded in producing from an inch and a half of this simple thread, bent into an arch, a light equal to an ordinary gas jet. The lamp-black, however, contained air, which greatly interfered with the success of the method. He then used a simple thread, which he found to answer the purpose, though it presented the objection of being fragile, uneven in texture, and unmanageable. This difficulty suggested the use of charred paper, cut into a thread like form. The difficulties apparently so insuperable melted away. The electric lamp was completed. A piece of charred paper cut into horseshoe shape, so delicate that it looked like a fine wire, firmly clamped to the ends of the conducting and discharging wires so as to form part of the electric circuit, proved to be the long-sought combination. From this, a light, equal in power to 12 gas jets, may be obtained. Fig. 8.

The process by which the paper is rendered serviceable is also extremely simple and inexpensive. The horseshoe loops
776 are cut from card-board and placed in layers, within an iron box, with tissue-paper between; the box is hermetically sealed, and then raised to a red heat. Nothing remains but the carbon loops and the carbonized tissue-paper. All other forms of carbon previously used had presented the difficulty of containing air or gas. The carbonized paper, is found to be perfectly homogeneous in structure, elastic, tough and of an almost vitreous cleavage. It is strong enough to stand far more strain than will be put upon it in ordinary use. If this paper were burned in air, or in a vacuum prepared by a common air-pump, it would of course be almost in-

stantly destroyed. In a high vacuum it burns, but is never consumed. The small glass globe which holds the simple apparatus is exhausted of air by means of nearly the same combination of the Sprengel and Geissler mercury pumps used by Crookes in making his radiometer, or "light mill," and in his wonderful discovery of the phenomena of radiant matter in which vacuums, recently brought before the Royal Society of England. Much attention has been bestowed of late on the question of securing good vacuums. An absolutely perfect one is unattainable. It is, however, found that, by the use of the mercury pumps and chemical appliances, where a nearly perfect vacuum is formed, the minute portion of air remaining shows some remarkable properties. When electricity

777 under strong pressure passes through an Edison lamp, the whole bulb shines with a delicate blue light. So remarkable is the behavior of various substances in a vacuum prepared by means of mercury pumps, that physicists consider that a gas thus rarified constitutes another state of matter, differing as much from that of an ordinary gas (either under atmospheric pressure or with the pressure removed by means of a common pump) as gas differs from a liquid, or a liquid from a solid. Mr. Edison's use of carbon in such a vacuum is entirely new.

The pumps are shown in Fig. 9; the Geissler is to the right and below. By raising a bottle which is connected with it, the air is forced out of a large glass bulb, and allowed to escape through the tube A. On lowering the bottle, the mercury flows back into it, leaving a vacuum in the bulb. The opening of a stop cock allows some of the air which is left in the pump to flow into this bulb, when the air is again forced out as described; this is continued until the air is exhausted. The working principle of the Sprengel pump is the continuous dropping of mercury through a tube, each drop acting as a piston, carrying before it a small quantity of air. As there is no return stroke, even by the aid of a small tube, the work of exhaustion goes on quite rapidly. The MacLeod gauge in the center is so constructed that it will measure with exactness when less than one-millionth of the original air is left in the pump.

778 Another purpose besides that of preventing the destruction of the carbon is served by burning it in a vacuum. Almost all the electricity is converted into light, very little being dissipated by convection or conduction as heat. The little glass globe only an inch from this brilliant light remains cool enough to be handled and does not scorch tissue-paper wrapped closely around it.

Fig. 8 shows the lamp of its actual size. The current enters it by one of the wires W. At B this copper wire is twisted and soldered to a platinum wire, which passes through the glass at C, and by means of a small platinum clamp into the horseshoe, L, from which, by as simple a route as it entered, it returns. L, the source of light was made in the form of a horseshoe, in order to approximate to the shape of a gas jet, and is large enough to cause the edges of the shadows to be softened down and so obviate the common objection to familiar forms of electric lighting. The carbon is sealed in a glass bulb, G G G G, the knob of glass, F, is the melted extremity

of the tube by means of which the bulb was connected with the pumps. At the points C C, where the platinum wires are sealed into the bulb, some trouble was occasioned by the cracking of the glass, which allowed air to leak into the bulb. It will be noticed that the glass is now drawn up around the wire in a thin tube. This
 779 is found to heat and cool so rapidly that it is practically homogeneous with the wire, and even if the wire be heated redhot it will not break. Mr. Edison has tried putting a lamp alternately on and off the circuit for several hours by means of a telegraph key, without loosening the wire. This experiment was equivalent to using the lamp several thousand times.

Mr. Edison has thus succeeded in making a lamp of the simplest imaginable construction, and of materials whose expense is extremely small. The paper costs next to nothing, the glass globes very little, and the platinum tips of the wires are so small that though the metal used is expensive, their cost is trifling. The test of the value of every invention is its simplicity, and this is the crowning characteristic of Mr. Edison's lamp, for it is really nothing more than a piece of wire lopped into a glass globe.

The lamp being complete, let us consider the generator (Fig. 10) for which Mr. Edison has proposed the name Faradic, in honor of the great physicist.

The cylinder which is placed below, between the blocks of iron, F, on which the magnets M rest, is called the armature, and is so arranged that it can be made to revolve rapidly by means of a belt. This armature consists of a small cylinder of wood, which is wound around with iron wire as thread is wound on a spool, the ends being
 780 made as in a spool, to hold the wire in place. Around the whole spool are a number of loops of copper wire, covered with cotton thread running lengthwise of the armature. The ends of these loops may be seen as they are taken from the armature to the cylinder C, which is an extension of the armature, by which the currents generated in the copper wire may be taken away from the machine. This cylinder, called the commutator, consists of blocks of copper that really represents the ends of the wire, which are placed side by side around the axis of the cylinder in such a manner that no current can pass from one to the other. Touching these as they revolve are brushes, R, made of copper wire, by means of which the electricity flows from the machine.

That the wire about the armature may be able to pump electricity into the line, it is needful that it be revolved immediately in front of magnets. The magnets are made of such large dimensions that the electricity which is pumped through the machine, may meet with as little friction as possible in passing through the wire of the armature, since by means of the great strength of the magnets, very little wire can be made extremely powerful in forcing the electricity to a higher level, or in putting it under pressure. It is exactly as in pumping water, if we have a poor pump (analogous to a machine with a poor magnet) the water may meet with an enormous friction in the pump itself, or require two or more, perhaps, to give
 781 it the required pressure while in a good pump all the parts are so made that while great pressure is given to the water,

it passes through it with the utmost freedom. The machine has such strength that it is intended to use only a small fraction of the power, which it could convert into electricity, and deliver outside.

It is proposed to mass a large number of such machines, as in Fig. 11, and have them all pump electricity up from one wire into a second. The two large wires, held on supports above the floor, are intended, the one to carry the electricity away, and the other to bring it back after it has been used. The two machines are placed at one side; these are for the purpose of rendering active the magnets of all the others.

It is proposed to establish such stations in the course of a few months in the heart of several of our large cities. These will supply houses for quite a distance around them. 1000 horse power is thought to be a sufficient amount for a unit and the stations will be at such distances from one another that each district will require about this amount. The engines will be divided into four groups of 250 horse power each, with a spare one in each station for the same power.

The wires will be laid in fascines or bundles under the edge of the sidewalk in a tight box. The object of this is to make them easy of access and easy to place in position. Nor is there need of putting them out of the reach of the frost, for they are continuous and not liable to leak from change in position. Even more important is the fact that the colder the wires are the less is the waste of electricity thus giving a decided advantage over gas in winter, when most light is needed.

The main wires may be either of iron or copper according to the market price of these metals, as quotations are today the preference is slightly in favor of copper wire. These lines of wire will start from the central station and send out branches in the same manner that gas or water pipes diverge, growing smaller the farther they are removed from the central station. Fig 12 also shows the branch wires as they enter the house. It is proposed to color the distributing wires red and the waste wires green. These two distinct wires will be carried all through the house, and every lamp will be so placed that the electricity will flow through it from one wire to the other.

Before passing into the house the electricity is carried through a sort of meter containing a safety-valve, by means of which it can be measured. The contrivances for doing this are shown in diagram,

in Fig. 12, and in perspective in Fig. 13. The lettering is the same in both for identical parts. The current enters at

E, passes through the two platinum points D, then through the armature, A, to the dividing points P. P. The larger portion of the current then flows around the magnet M. The armature above the magnet is held from it by means of the spring X. The object of the device is to furnish a means of cutting out a house if too large a flow of electricity by any accident should occur. The magnet would then be capable of drawing down the armature which would separate the platinum points, D, and break the circuit.

The small wire, W, serves a double purpose and is a remarkably clever solution of a double problem. First: If the circuit were partly

opened it would weaken the magnet, and the armature would recede, closing the circuit. It would thus form a vibrator resembling Fig. 6. The wire W, allows enough electricity to pass to close the snap, S, so that the armature is firmly held in place, after which the wire W, will melt off and completely break the flow of electricity. Secondly, the wire serves another purpose: if the points were drawn apart an arc would spring between them. The wire, W, conducts the electricity by a shorter route than that offered by an arc and so keeps the space between the two points free from the intensely heated vapors of the metal.

784 A small fraction of the current passes by another route to the lamps, from the point P. It first traverses a length of wire wound on small spools marked R. The amount placed here will regulate the flow through this line. The current next passes through from one copper plate marked Cu to another, through a solution of copper salt. In thus flowing, for every unit of current a certain amount of copper is deposited on a thin sheet, the amount for a lamp being once determined by burning one for a number of hours. It must be remembered that only a small amount passes through the meter, but that which passes is proportionate to the whole. It is proposed to make a standard lamp, which shall give a light equal to that from a gas flame consuming five cubic feet each hour. From this it will be calculated how much copper will be deposited and the amount will be said to represent five cubic feet. The bills for electricity will be made out in 1000 feet, as in the case of gas. The inspector will take the strip on which the copper is deposited to the central station, in order to determine the amount of electricity used.

Besides giving light, the electricity supplies a convenient form of motor for domestic purposes. A small electrical engine placed beside a sewing machine, for example, and connected with the distributing wire, may save all the fatigue of treading the machine, at an expense exactly equal to that of one jet burning for the same

785 time. Elevators may be lifted, lathes turned, and instruments operated up to several horse-power, by this same means. Fig. 14 shows the form adopted by Mr. Edison. It is substantially a small model of the large Faradic machine, the only change being in the fact that the armature C is placed lengthwise of the magnets, M M, instead of across them. At S is a switch by means of which the motor can be started or stopped. It is expected that the amount of power used in the day time will largely pay for the expense of generating—an additional advantage over gas.

In order to use the lamp, it is brought into the circuit by turning a handle in a certain direction, or thrown out by reversing the motion, or by means of plugs, which are inserted in a socket. This may be done either in the chandelier, or in any other convenient place in the house. Very simple arrangements may be made so that by touching a knob by the bedside the whole house may be brilliantly lighted for the reception or discovery of a suspected burglar. Of course, no matches have to be used; the light kindles

itself by the turning of a handle, and so one fruitful source of destructive fires is avoided.

In order that the philosophical relations of the processes may be understood it is needful to trace the history of the energy as it is taken from the coal and conveyed over the wire to the lamp.

786 A large portion of the heat produced by the combustion of the coal under the boiler is found in the steam as it flows to the engine. By means of the latter a small fraction, about ten per cent, of the original energy, is transformed into the motion of the wheels attached to the engine. It may be traced as it flows through the belt to the shaft, and again as it is carried from the shaft to any machine which it may drive. A belt exactly resembles, in carrying power, a man pulling a shaft around by means of a rope. The amount he is pulling can be measured by the strain on the belt, and the work he is doing by determining the speed with which he carries the end of the rope. Mr. Edison has made a device, represented by Fig. 15, to measure this strain. The belt starting from the pulley over the main shaft C is carried under a pulley A, which is attached to a large box containing heavy weights. This box is placed upon a platform scale. The belt then runs over pulley, D, which it has to drive, and under a wheel B, which rests heavily upon what would otherwise be the slack part of the belt, for the purpose of tightening it. The pulley, A, attached to the weight, will have a tendency to be drawn upward by any strain that may be put on the belt, just as the block of a tackle is drawn up when the rope is tightened which runs through it. The weight lifted may be measured by the diminution of weight on the scale, one half of which gives the strain on the belt. Fig. 15 also shows the

787 arrangement of machines as they were placed in order to be tested. The cones D and E were for the purpose of changing the speeds at which the machines were run. The machine H, at the right, renders active the field of the other machine, F; the current may be regulated by passing through more or less of the resistance boxes R. By means of this apparatus the exact amount of power carried by the belt can be reckoned when its speed is known. This latter measurement is made from the main shaft.

The energy which the belt carries is seemingly lost, as material motion, which it has turned the armature of the Faradic machine. Since this seems to be a point where the majority lose the track of the energy, in order to explain clearly allusion must be made to some fundamental experiments. Arago many years ago tried this experiment; a sheet of copper, which is not attached by the magnet under ordinary conditions, was passed between the two poles of a powerful magnet, and it was found to be retarded in its motion. If the magnets are extremely strong, though the copper sheet to the eye passes through nothing but air, yet to the hand it seems as if it were cutting cheese, so strong is the drag put upon the copper. This phenomenon Tyndall calls the apparant *vo-cos-*

788 ity of the magnetic field. Faraday, a few years after this discovery, clearly explained the reason for seeming friction between the plate of copper and the invisible lines of magnetic force

which he imagined to reach out from every magnet. He used wires and passed them in front of the magnet, and found that whenever they were made to cut these lines electricity was thrown into the wires. This grand discovery is at the basis of all that is now done in making strong currents, for it furnishes the method by which motion of mass may be transformed into the molecular motion called electricity.

As the energy appears in the wire, it is measured again by an electrical dynamometer, the main idea of which was that of Professor Trowbridge, of Harvard University.

By means of the two instruments, one is enabled to trace out the amount of energy absorbed and given back by the machine, and in many cases ninety per cent of the original power applied is found converted into electricity. A system of electric lighting is nothing more than a gas system, where energy takes the place of vapors.

It is one of the laws of progress, that no sooner is a method for producing a certain result perfected than a practical use of it follows. This is attested by the history of many great inventions.

Following out the laws of discovery, it has been for sometime a speculation of the writer that the wonderful perfection to
789 which vacuums had been brought, pointed historically toward some direct connection between them and the electric lamp. For the past few years no more striking result of

scientific work has been effected than the startling phenomena shown in high vacuums; parallel with this a growing want has been felt for a cheaper and more efficient mode of illuminating. Is this a mere coincidence? Or may we believe that the demand and means of supply have been developing independently, but side by side, and that now in the electric light we find a practical application of what had been reached by purely theoretical research?

Besides the enormous practical value of the electric light, as domestic illuminant and motor, it furnishes a most striking and beautiful illustration of the convertibility of force. Mr. Edison's system of lighting gives a completed cycle of change. The sunlight poured on the rank vegetation of the carboniferous forests, was gathered and stored up, and has been waiting through the ages to be converted again into light. The latent force accumulated during the primeval days, and garnered up in the coal beds, is converted, after passing in the steam engine through the phases of chemical,
molecular and mechanical force, into electricity, which only
790 waits the touch of the inventor's genius to flash out into a million domestic suns to illuminate a myriad homes.

End of Omaha Exhibit No. 22. H. E. K.

791

OMAHA EX. No. 21. H. E. K.

Omaha Electric Light and Power Company.

List of Power Customers as of May 1, 1908.

Name.	Nature of business.	H. P.
Doup, L. G.....	Upholstering	97 1/2
Omaha Bedding Co.....	Mattress	19
Nebr. Trans. Co.....	Elevator	15
Lowrey, John	Machinist	35
Disbrow, M. A.....	Upholstering	27 1/2
Twamley, J. F.....	Grain Elev	5
Omaha Pkg. Co.....	Elevator	5
Schmid, Jacob	Meat Grinder	3
Salerno, J	Shoe repair	2
Rosenblum, H	Tailoring	1/2
Moyune Tea Co.....	Food Grinder	1/4
Schnauber & Hoffman.....	Meat Grinder	3
Palace Stables	Elevator	10
Anchor Fence Co.....	Wire Fence Mfg.....	3
Flescher, L	Bicycle Repairs	1
Rapid Shoe Repair Co.....	Shoe Mfg	3
Masonic Hall	Elevator	32 1/2
U. P. Tea Co.....	Food Grinder	2
White & Ortman.....	Bakery	2
City of Omaha.....	Asphalt Plant	10
Kelley & Heyden.....	Shirt Mfg	1/4

792

Caniglio, R	Shoe Mfg	1
Kennard, G. & Paint Co.....	Elevator	15
Sylvester, I	Printing	2/3
Simpson, J. M.....	Elevator	5
Omaha News Co.....	Elevator	7 1/2
Liver, C. B. & Co.....	General Use	2
Swedish Pub Co.....	Printing	3
Anderson & Peterson.....	Wood Working	1
Kennedy, J. R.....	Machinist	5
Ring, Geo.....	Printing	2
Strong & Evans.....	Machinist	5
Wintroub, Max	Sausage Mfg	3
Omaha Elet. Wks.....	Electrical Mfg	20
Johnson, Chase	Plumber	2
Mays, F. R.....	Printing	3
Brandies, J. L. & Sons.....	Refrig. & Gen. Use....	151
Phelps, P. C.....	Candy Mfg	5
Grand Union Tea Co.....	Food Grinder	2
Dyball, Ed S.....	Ice Cream Mfg.....	5
McCrorey, J. G. Co.....	Cash Conveyor	1
Aulabaugh, G. W.....	Furrier	5

Name.	Nature of business.	H. P.
Continental Block	Elevator	15
Jennings, B. C.	Printing	1 1/4
Schwartz, A	Hat Mfg	1
793		
Omaha Stove Rep. Wks.	Machinists	16
Wood Produce Co.	Elevator	7 1/2
Kramer & Chandler.	Printing	7 1/2
Marshall Paper Co.	Paper Cutter	2 1/2
Parmer, F. D. & Co.	Coffee Roaster	17 1/2
Geisler, Max	Feed Grinder	2
Mangum & Co.	Printing	1
Germania Dye Wks.	Dyeing	5
Beecon, A. G.	Printing	1
Novelty Skirt Co.	Skirt Mfg	5 1/2
Schwartz & McKelvey.	Printing	1 1/4
Q. M. Dept. of Mo.	Elevator	15
Arlington Block	Elevator	15
Jacobson, J	Jeweler	3
Whitemore, H. P.	Frame Mfg	2
Robinson Bros	Fans	1/2
Sherman & McConnell.	Freezer	3
Pit Pat Candy Co.	Candy Mfg	3
Ribbell, P. & W. W. Wks.	Elevator	20
Andreen, G. A.	Machinist	10
Feren, A	Metal Cutting	12 1/2
Sunderland Bros	Elevator	15
Feren, A	Metal Cutting	5
Cady, H. F. Lbr. Co.	Lumber Yard	5
794		
Smith, M. E. & Co.	Shirt Mfg	75
Brown Truck Co.	Elevator	10
Beebe & Runyan.	Elevator	10
Linden, John.	Elevator	7 1/2
Tedesco, C	Shoe Mfg	2
W. U. Tel. Co.	Motor Generator Set ..	17 1/2
Omaha Nat'l Bank.	Elevator	30
Hummel, L. R. & Co.	Candy Mfg	2
Underland	Cuttlery Mfg	42
Calumet Rest	Exhaust Fans	12 1/2
Beckworth Carey Ptg. Co.	Printing	1
Karbach Block	Elevator	35
Kilpatrick, Thos	Elevator	17
Hospe, A	Elevator	7 1/2
Nebr. Tel. Co.	Motors, Generator Set. .	10
Creighton Law School.	Elevator	10
Krage, J. L.	Shoe Mfg	2
Alamito Dairy Co.	Creamery	15
Deright, J. J.	Auto Garage	3
Rohrbaugh Bros.	Elevator	10

Name.	Nature of business.	H. P.
Electric Garage	Charging Set	35
Vodrie, W. D.	Bakery	2
Hong Kong Tea Co.	Food Grinder	1/2
Reed Ptg. Co.	Printing	3
Frederickson, H. E.	Machine Shop	3

795

Kimball, R. R.	Machine & Elevator...	3
Defiance Starch Co.	Starch Mfg	5
Powell Auto Co.	Motor Generator Set..	7 1/2
Ewing, E. B.	Vacuum Cleaner	7 1/2
Indep. Tel. Co.	Motor Generator Set...	10
Bloom, J. F.	Granite Wks	2
Darling, M.	Picture Frames	5
Drummond Carriage Co.	Carriage Mfg	7
Raber, Lew W.	Printing	6
Globe Optical Co.	Eye Glass Mfg	3
Peoples Store	Elevator	30
W. S. Balduff	Candy Mfg	32
World Pub. Co.	Newspaper Ptg	60
Penfold, H. J.	Woodworking	3
Philbin-Murphy Co.	Elevator	10
Neville, Jas	Elevator	15
Clark, W. G. & Co.	Elevator	15
Rutherford & Jensen.	Paper Cutting	10
Hanighan, J. J.	Pipe Cutting	5
Quimby & Linquist.	Printing	2
Castleman, W.	Printing	1/4
Omaha Silver Co.	Plating	5
Haney, J. H. & Co.	Saddlery	10
Omaha Plating Co.	Plating	15
Swoboda, E. J.	Printing	1

796

Marks Bros	Saddlery	10
Amer. Hand Sewed Shoe Co.	Shoe Mfg	2
Omaha Crockery Co.	Elevator	15
Hobbs Jones Co.	Elevator	7 1/2
Cole, David, Co.	Creamery	5
Masterman, W. L.	Coffee Roaster	10
Sherwood, C. A.	Printing	2
Elsasser, H.	Machinery	5
Crane Co.	Pipe Cutting	25
Lee Glass Andreeson.	Elevator	30
Harding Cream Co.	Creamery	80
Carpenter Paper Co.	Elev. & Gen. Use.	30
Huteson, J. C.	Eye Glass Mfg.	2
Brunswick B. Coll.	Woodworking	5
Western Electric Co.	Elevator	7 1/2
American Radi-tor Co.	Elevator	36

Name.	Nature of business.	H. P.
Rees Ptg. Co.....	Printing	32½
Omaha Tent & Awning Co.....	Awning Mfg	5
Kirkendall, E. P	Shoe Mfg	40
Martin Cott Hat Co.....	Hat Mfg	2
Lee, Geo. H. Co.....	Incubator Mfg. Co.....	10
Omaha Iron Store Co.....	Machine Shop	3
Harney Str. Stables.....	Elevator	5
U. P. R. R. Co.....	Motor Generator Set...	5

797

Watson, H. A.....	Blacksmith	1
Shugert, G. E.....	Furrier	1
Smith, A. F. Co.....	Mfg. Jewellery	15
Miller, Stewart & Beaton.....	Elevator	30
Dennis, J. G.....	Exhaust Fans	5
Johnson Plumb & Heat Co.....	Pipe Cutter	10
Nebraska Ptg. & Grdg. Co.....	Plating	5
Jubilee Mfg. Co.....	Elevator	5
Medlar, I. A	Printer	20
Comstock & Riha.....	Printers	½
Gould, F. P. & Son.....	Hoist	10
Webster-Sunderland	Elevator	22
Shukert, G. E.....	Elevator	30
Karback, P. J. & Sons.....	Elevator	35
Melchoir, P	Machinist	5
O'Brien, D. J.....	Candy Mfg	80
Root, A. I.....	Printing	50
Great Western Type F'dry.....	Type Mfg	35
Swenson Bros	Elev	8
Snyder, J. R.....	Elevator	8
Jerpe Comm. Co.....	Elevator	8
Haley & Lang.....	Elevator	8
Perry & Co.....	Produce	2

798

Calcedinio	Shoe Repair	2
Byrne-Hammer Co	Shirt Mfg	40
Iler & Co.....	Distillery	25
Cole Creamery Co.....	Creamery	15
Rosso Fruit Co.....	Elevator	5
Rocco Bros	Elevator	5
Yetter Wall Paper Co.....	Paper Cutting	41
Hayward Bros. Co.....	Shoe Mfg	10
Nat'l Ptg Co.....	Printing	16
S. & S. Ptg. Co.....	Printing	2
Weinstein, A. G. & Co.....	Food Grinder	½
Omaha Mitten Mfg. Co.....	Mitten Mfg	12½
Kirschbraun & Son.....	Creamery	113
Festner Ptg. Co.....	Printing	15
Wolf Bros	Awning Mfg	5
Cramblett, W. R. & Co.....	Lithographer	8

Name.	Nature of business.	H. P.
Porter Ryerson & Hoobler.....	Elevator	12
Carleton, R	Sign Mfg	2
Melchoir, Hugo	Cuttlery	1
Cahn, A	Shirt Mfg	1
Postal Tel. Co.....	Motor Generator Set...	20
State Electric Med. Inst.....	Static Machine	1½
Lehmer, J. R. Co.....	Elevator	10
Cornish, A. & Co.....	Saddlery	2

799

Balduff & Co.....	Refrigerator	30
Omaha Rubber Shoe Co.....	Elevator	10
Omaha Press Ass'n.....	Printing	7½
Spiesberger & Son Co.....	Elevator	25
C. B. & Q. R. R. Co.....	Elevator	7½
Omaha Ptg. Co.....	Printing	98
U. P. Hdqts.....	Elevator	15
Nebr. Tel. Co.....	Motor Generator Set...	67½
U. S. Supply Co.....	Elev. & Mch. Shop...	53
Allen Bros. Co.....	Coffee Roasters	57
Orr Gas Eng. Starter Co.....	Elevator	5
Columbia Fire Ins. Co.....	Paper Cutter	1
Weir & Co.....	Woodworking	5
U. S. Heater Co.....	Elevator	10
Western Stamp & Stencil Co...	Stamp Mfg	2½
Snell Ptg. Co.....	Printing	3½
C. E. Williamson.....	Printer	½
Omaha Trunk Factory.....	Trunk Mfg	5
Omaha Furn. & C. Co.....	Elevator	15
First National Bank.....	Fan	5
Hiller, Henry	Bottle Washing Mch...	3
Schmoeller & Mueller.....	Elevator	15
M. Rogers & Sons.....	Elevator	7½
Thompson, H. E.....	Furrier	1
Robertson, C. O.....	Exhaust Fans	7½

800

O'Brien, T. J.....	Elev. & Refrigeration..	7½
Baker Bros	Engraver	5
Carson & Banks.....	Jewelry	3
Midland G. & Paint Co.....	Elevators	30
Owl Drug Co.....	Freezers	1
West. N. P. Union.....	Printing	31
Western Paper Co.....	General Paper Bus....	3½
Hopson Ptg. Co.....	Printing	½
Sanborn, F. E.....	Stock Food Mfg.....	40
Iler Grand Hotel.....	Elevator	10
Thompson, Belden	Elev. & Sewing Mch..	90
Orchard & Wilhelm.....	Elevator " "	65
Y. M. C. A.....	Elevator	15
Albrecht, O. A.....	Machinist	5

Name.	Nature of business.	H. P.
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Waterloo Cream Co.....	Creamery	35
Neb. Cotton Glove Co.....	Glove Mfg	10
Roberts Ptg. Co.....	Printing	$\frac{1}{2}$
Omaha Hotel	Elevator	$7\frac{1}{2}$
Murphy, A. & Son.....	Blacksmith	25
Waters Ptg. Co.....	Printing	$\frac{1}{2}$
Huntington, T. C. & Son.....	.....	3
Baroch, Leo	Machinist	2
Stonecypher, A. L.....	Printing	$\frac{1}{2}$
Omaha Posten Pub. Co.....	Printing	$\frac{1}{4}$
Forbes Green Cons. Co.....	Hoist	$7\frac{1}{2}$

801

Colortype Eng. & P. Co.....	Printing	$7\frac{1}{2}$
Wright & Wilhelmy.....	Elev.	30
Richardson Drug Co.....	Elevator	15
Omaha Imp. & Trans. Co.....	Elev	15
Liddell, John	Produce	$7\frac{1}{2}$
Schmerhorn Bros	Coffee Roaster	10
Nebr. Stone Co.....	Stone Cutting	20
McDonald, A.....	Hoist	3
Metz Bros	Brewery ...	$37\frac{1}{2}$
Nebr. Moline Plow Co.....	Elevator	15
John Deere Plow Co.....	Elevator	10
U. S. Indian Warehouse.....	Elevator	$7\frac{1}{2}$
Wedgewood Coffee Mills.....	Coffee Roaster .....	.....
Kingman Implement Co.....	Elevator	15
Rock Island Plow Co.....	Elevator	15
Northwall, T. G.....	Elevator	$7\frac{1}{2}$
Allen, Henry	Elevator	$7\frac{1}{2}$
Paxton & Gallagher.....	Coffee Roaster	17
Racine Sattley Mfg. Co.....	Elevator	10
John Deere Plow Co.....	Elevator	20
Omaha Carriage Top Co.....	Elevator	$\frac{1}{8}$
Nebraska Seed Co.....	Grinding & Elev.....	20
Hartman F. & C. Co.....	Elevator	$7\frac{1}{2}$
Armour & Co	Elevator	5

802

Herschel Mfg. Co.....	Elevator	5
Voegel & Dinning.....	Candy Mfg	15
Cudahy Pkg. Co.....	Elevator	10
Barton Mfg. Co.....	Printing	1
Wendhausen, W. F.....	Refrigeration	5
Champion Iron & Wire Wks....	Fence Mfg	5
Omaha Daily News.....	Newspaper Mfg	$91\frac{3}{4}$
Hyatt & Longacre.....	Printers	1
Rex Stock Food Co.....	Mfg. Stock Food	15
Egger O'Flying Co.....	Box Mfg	73
Hammond Pkg. Co.....	Elevator	10
Swift & Co.....	Elevator	5

Name.	Nature of business.	H. P.
Jno. Deere Plow Co.....	Elevator	20
Parlin-Orendorff & Martin.....	Elevator	15
Avery Mfg. Co.....	Elevator	25
Woolstein, M. & Co.....	Elevator	7½
U. P. R. R. Co.....	Elevator	90
" "	Signal Tower	5
" "	" "	5
Indep. Tea Co.....	Food Grinder	½
Duve, Henry	Meat Grinder	5

803

Lininger Imp. Co.....	Elevators	17½
Kuncl, A. F.....	Meat Grinder	3
Vapalka, J	" "	2
Kuncl, F	" "	5
Nebr. Ia. Grain Co.....	Grain Elevator	185
Neble, S	Newspaper Publisher ..	8
Krug Brewing Co.....	Bottling Works	15
Yun, Frank	Meat Grinder	2
Smith & Lakewood.....	Whip Mfg	9
Huma-e Horse Collar Co.....	Leather Goods	20
Polcar, J. W. & Co.....	Carpet Cleaners	5
Naegle, H	Sausage Mfg	3
Paxton & Vierling.....	Foundry	20
Nyepensky, J	Coffee Grinder	¼
Pokrok Pub. Co.....	Printers	¼
Seaman, F. J.....	"	4
Rahn Bros	Carpet Cleaners	20
Kuncl, Chas. F.....	Meat Grinders.....	3
Kuncl, V. F.....	" "	5
Nebraska Mattress Co.....	Mattress Mfg. Co.....	20
Chicago Lbr. Co.....	Woodworking	7½
West Tinware Co.....	Tinware Mfg	16
U. S. Govt. Corral.....	Elevators	40
Witaschek Bros	Bakery	10

804

Thompson, A	Sausage Mfg	2
Feenan, M. J. & Sons.....	Granite Works	2
Wooden Pkg. Co.....	Wood Working	10
Independent Elevator Co.....	Grain Elevator	445
Nye-Schneider Fowler Co.....	Grain Elevator	1185
Board of Education.....	Ventilators	5
Wise Memorial Hospital.....	Elevator	20
The Wardrobe	Cleaners & Dyers	5
Wallace, Wm. M.....	Vacuum Cleaner	¼
McGuire, Jas	Grain Elevator	20
Gravert, Peter	" "	15
Nebr. Tel. Co.....	Motor Generator Set ..	2
Sceeamire, E. A.....	Blacksmith	5
Village of Benson.....	Water Pumping	65

OLD COLONY TRUST CO. VS. THE CITY OF OMAHA.

445

Name.	Nature of business.	H. P.
Benson Cement Works.....	Cement Mixer	5
Nolan, J	Water Pump	2
Nebraska Tel. Co.....	Motor Generator Set...	2
U. P. Steam Baking Co.....	Bakery	23 1/2
Merriam & Holmquist.....	Grain Elevator	57 1/2
Traphagen, W. H.....	Wood working	2
W. Peterson	"	2
Bd. of Education.....	Ventilator	5
Ind. Tel. Co.....	Motor Generator Set...	10

805

Chapman, R	Meat Grinder	3
Zeligson & Wiger.....	Bottling Works	5
Neb. Tel. Co.....	Motor Generator Set...	2
Foley, Jno. W	Machine Shop	2
Watson & Patton.....	Blacksmith	1/4
Mapes, C. B.....	Grinder	2
Crowell Lbr. & Grain Co.....	Grain Elevator	264 1/2
Storz Brewing Co.....	Pump	5
Counsman & Van Burgh.....	Warehouse	10
Berg, Wm	Blacksmith	7 1/2
Hospe, A	Elevator	5
Merriam & Holmquist.....	Grain Elevator	255
Bearing Co. of America.....	Machine Shop	2
Baker Ice Machine Co.....	Ice Machine Mfg.....	30
Nebr. Meth. Ep. Hosp. & Deacons' Home	Elevators & Laundry ..	60
Bd. of Education.....	Ventilation	2
Nash, Mrs. C. B.....	Vacuum Cleaner	12
Joslyn, G. A.....	Elevator	2
St. Johns School.....	Organ Blower	2
Johnson Bros	Food Grinder	3
Exp. Del. Co.....	Elevator	1
Jewell Tea Co.....	Coffee Grinder	1

806

Dalzell, J. A	Ice Cream Freezer.....	2
House of Good Shepard.....	Laundry	34
Ft. Omaha, U. S. Government...	Mach. Shop & Gas Mfg.	277 1/2

807

OMAHA EXHIBIT 2. H. E. K.

Form No. 3.

Geo. W. Marsh, Deputy.

Addison Wait, Secretary of State.

UNITED STATES OF AMERICA,
State of Nebraska:

(Great Seal of the State of Nebraska, March 1st, 1867.)

I, Addison Wait, Secretary of State of the state of Nebraska, do hereby certify that the within is a full, true and complete copy of Articles of Incorporation of "New Omaha Thompson-Houston Electric Light Company" together with all endorsements thereon as shown by the records of this office.

In testimony whereof, I have hereunto set my hand and affixed the Great Seal of the state of Nebraska. Done at Lincoln, this 19th day of December, in the year of our Lord One Thousand Nine Hundred and Eleven, and of the Independence of the United States the One Hundred and Thirty-sixth, and of this state the forty-fifth.

[SEAL.]

ADDISON WAIT,
Secretary of State.
GEO. W. MARSH,
Deputy.

808 *Articles of Incorporation of the New Omaha Thompson-Houston Electric Light Company.*

Know all men that we the undersigned, J. C. Regan, J. E. Riley, J. W. Paddock, Geo. W. Duncan, P. G. Regan, George Canfield, Alfred Schroder, M. J. Fitzgerald and M. A. McNamara, have associated ourselves together, and by these presents do associate ourselves together for the purpose of forming and becoming a corporation in the State of Nebraska for the transaction of the business hereinafter described.

Article One.

The name of this corporation shall be the New Omaha Thompson-Houston Electric Light Company.

Article Two.

The principal place of transacting the business of the corporation shall be in the city of Omaha in the County of Douglas in the State of Nebraska.

Article Three.

The general nature of the business to be transacted by said corporation shall be to purchase electric light patents, privileges and fran-

chises and sell or otherwise dispose of same; to construct lines of wire for the transmission of electric currents from central stations through such wires or otherwise; to produce lights for the illumination of streets, public and private buildings and for all other purposes, for which such light may be used; to enter into contracts for the furnishing such electric light to cities, towns, corporations or individuals; and to furnish the same for the purposes aforesaid or for any and all other lawful purposes anywhere within the state of Nebraska; to rent, sell, or otherwise dispose of all classes of electric light appliances; to purchase such real estate, erect such buildings, purchase contract and use such machinery, and purchase, lease, hold, use and dispose of all such other property and material of every kind and description as may be necessary or incidental to the prosecution of said business anywhere within the said State of Nebraska.

Article Four.

The authorized capital of said corporation shall be one hundred thousand dollars, divided into shares of one hundred dollars each, to be fully paid up when issued and to be non-assessable.

The capital stock may be increased to two hundred thousand dollars by a vote representing two thirds ($\frac{2}{3}$) of all stock, held by all the stockholders, of said corporation at the time such vote shall be taken, each share of such stock to represent one vote.

Article Five.

The officers of said corporation shall be a president, a vice president, secretary, treasurer, general manager, and a board of directors consisting of not more than five members, all of whom shall be elected by the stockholders, each stockholder to cast a number of votes corresponding with the number -- shares of such stock as he owns.

The first election of such officers shall be at such times as the incorporators whose names are subscribed hereto, may designate, but all subsequent elections shall be held at such times as the by-laws of said corporation shall fix upon; and the official terms of said officers and their respective duties shall be such as said by-laws shall prescribe.

Article Six.

The business of said corporation shall be transacted by the Board of Directors, thereof, each director casting a number of votes corresponding with the number of shares of the stock of such corporation as he shall own, and no person shall be an officer in or a director of such corporation who shall not be a stockholder thereof.

Article Seven.

The private property of the stockholders of this corporation shall not in any manner be liable for the debts or liabilities of the corporation, nor for the debts or liabilities in any way resulting therefrom.

Article Eight.

The highest amount of indebtedness to which said corporation shall at any time subject itself shall not exceed the sum of fifty thousand dollars.

Article Nine.

The existence of said corporation shall commence on the 26th day of September, A. D. 1885, and continue for the period of twenty years, unless sooner dissolved by a vote representing two thirds of all the stock of said corporation.

Article Ten.

The power and duties of the several officers of said corporation and the methods of conducting the business thereof, so far as the same are not herein prescribed, shall be regulated by the by-laws of said corporation.

In witness whereof, we have hereunto set out hands this 26th day of September, A. D. 1885.

J. C. REGAN,
J. E. RILEY,
J. W. PADDOCK,
GEO. W. DUNCAN,
P. G. REGAN,
GEO. CANFIELD,
ALFRED SCHRODER,
M. J. FITZGERALD,
M. A. McNAMARA.

812 STATE OF NEBRASKA,
Douglas County, ss:

On this 28th day of September, A. D. 1885, before me a notary public duly commissioned and qualified within and for said Douglas County, in said State of Nebraska, personally appeared the said J. C. Regan, J. E. Riley, J. W. Paddock, Geo. W. Duncan, George Canfield, Alfred Schroder, M. J. Fitzgerald and M. A. McNamara, personally known to me to be the identical persons whose names are signed to the foregoing articles of incorporation and they all and each for himself acknowledged the signing and execution of same to be his voluntary act and — for the purposes therein set forth.

In witness whereof I have hereunto set my hand and seal this said 28th day of September, A. D. 1885.

[SEAL.]

J. T. MORIARITY,
Notary Public.

Recorded Sept. 28th, A. D. 1885 at 4½ o'clock, P. M.
GUST BENEKE,
County Clerk.

STATE OF NEBRASKA,
Douglas County, ss:

I, J. T. Moriarity a notary public duly commissioned and qualified within and for said county do hereby certify that the foregoing is a full true and correct copy of the original articles of incorporation of the New Omaha Thompson-Houston Electric Light Company, and of the original certificate of acknowledgement thereto attached.

Witness my hand and notarial seal this 29th day of January, A. D. 1886.

[SEAL.]

J. T. MORIARITY,
Notary Public.

STATE OF NEBRASKA,
Douglas County, ss:

We, J. C. Regan, President and J. E. Riley, Secretary of The New Omaha Thompson-Houston Electric Light Company" do hereby certify that the foregoing is a full true and correct copy of the original articles of incorporation of the said "New Omaha Thompson-Houston Electric Light Company," and of the original certificate of acknowledgement thereto attached.

Witness our hands and the seal of said corporation this 29th day of January, A. D. 1886.

J. C. REGAN, *President.*
J. E. RILEY, *Secretary.*

STATE OF NEBRASKA,
Secretary's Office:

Received and filed for record this 2nd day of December, A. D. 1886, and recorded in Record Book "C" of Miscellaneous Incorporations at page 275.

E. P. ROGGEN,
Secretary of State.
By G. P. WINTERSTEIN.

OMAHA EXHIBIT No. 1. H. E. K.

(Chapter 288.)

THE COMMONWEALTH OF MASSACHUSETTS.

In the Year One Thousand Eight Hundred and Ninety.

An Act to Incorporate the Old Colony Trust Company.

Be it enacted by the Senate and House of Representatives in General Court assembled and by the authority of the same, as follows:

SECTION 1. T. Jefferson Coolidge, Jr., Eli T. Dillon, Frederick C. Dumaine, Gordon Abbott, Henry C. Richards, James H. Whitman,

Lucius M. Sargent and Julius R. Wakefield, their associates and successors, are hereby made a corporation by the name of the Old Colony Trust Company, with authority to establish and maintain a safe deposit, loan and trust company in the city of Boston; with all the powers and privileges and subject to all the duties, liabilities and restrictions set forth in all general laws which now are or may hereafter be in force relating to such corporations.

SECTION 2. This act shall take effect upon its passage.

815 House of Representatives, May 8, 1890.

Passed to be enacted.

WILLIAM E. BARRETT, *Speaker*.

In Senate May 8, 1890.

Passed to be enacted.

HENRY H. SPRAGUE, *President*.

May 8, 1890.

Approved:

JOHN Q. A. BRACKETT.

The Commonwealth of Massachusetts, Office of the Secretary.

BOSTON, May 29, 1912.

A true copy.

Witness the Great Seal of the Commonwealth.

[SEAL.]

ALBERT P. LANGTRY, *Secretary*.
M. J. H.

816 In the District Court of the United States, for the District of Nebraska, Omaha Division.

DISTRICT OF NEBRASKA, ss:

I, H. E. Kelley, Examiner of said Court, as per stipulation hereinbefore set forth, hereby certify that the foregoing testimony in the above entitled cause was, pursuant to stipulation by and between the parties hereto, as such stipulation hereinbefore appears, taken before me at the times and place in the record thereof indicated; that before testifying, each of the several witnesses was by me severally duly sworn to tell the truth, the whole truth and nothing but the truth; that said testimony was taken in shorthand by myself, and by myself transcribed as hereinbefore set forth; that by stipulation of parties the signature of each of said witnesses to their respective depositions, so extended, was waived.

I further certify that the copies attached hereto of the respective exhibits which were offered in evidence, are true and correct copies of the originals of said exhibits.

H. E. KELLEY,

Examiner of said Court as per Stipulation Above Referred to.

Endorsed: Filed Jul- 12, 1912. R. C. Hoyt Clerk.

130 Z.

817 UNITED STATES OF AMERICA:

District Court of the United States, within and for the District of Nebraska, Omaha Division.

Depositions on Behalf of Respondent.

Appearances:

William D. McHugh, Esq., and W. H. Herdman, Esq., For the Complainant.

William C. Lambert, Esq., and Benj. S. Baker, Esq., For the Respondent.

Stipulation.

It is hereby stipulated and agreed by and between the parties in the above entitled cause that the evidence may be taken in said cause on the part of the respondent, to be used in the trial of said cause, the evidence to be taken at the office of Assistant City Attorney William C. Lambert, in the City Hall Building, Omaha, Nebraska, on Saturday, June, 22, 1912, commencing at 10:00 o'clock A. M., before H. E. Kelley, Notary Public, in all respects as though the said H. E. Kelley were an Examiner of said Court, all notice of the time and the place of the taking of said depositions being hereby waived, and it being agreed that the said H. E. Kelley shall take the depositions and testimony, and certify to the same, and deposit the same with the Clerk of said Court in all respects as if he were an Examiner of said Court, all objections as to the form and style of the caption and the certificate, and transmission of the said testimony being hereby waived, and the signatures of the witnesses to their respective depositions is hereby expressly waived, the complainant waiving all objections to the form of the questions asked, except as specifically made at the time of the taking of the depositions.

WILLIAM D. MCHUGH,
Solicitor for Complainant.
WILLIAM C. LAMBERT,
Solicitor for Respondent.

819 WILLIAM DENNIS MARKS, a witness, being called on behalf of respondent, after being duly sworn, was examined in chief by Mr. Lambert, and testified as follows:

By Mr. LAMBERT:

Q. You have given your name?

A. Yes.

Q. Professor Marks, you may relate your experience?

A. I suppose I should begin by presenting my credentials. I am 63 years of age. In 1876 I was made professor of dynamic engi-

neering in the University of Pennsylvania, teaching the mathematical study of force and motion. I am also one of the pioneers in the commercial application of electricity. In 1878 I was retained by a syndicate of New York gas men to investigate the commercial phases of the Edison Incandescent light, which was just then invented. In that year we went to Menlo Park, and stayed there some time, making several visits there, making the acquaintance of Edison, and becoming very friendly and have retained that friendship since. In 1883 while still professor in the University of Pennsylvania at Philadelphia, I was made superintendent of the International Electrical Exhibition given under the patronage of the Franklin Institute of Philadelphia.

The Franklin Institute is one of the oldest scientific bodies in the United States, and is perhaps the best known of any of the American technical bodies to the scientific societies of Europe. I was at that time chairman of their committee on science and the arts.

820 This International Electrical Exhibition occupied a space of an ordinary city block and was conducted on a very large scale. It was the first electrical exhibition ever given anywhere of an international character. During the preparations for this exhibition, in addition to being constantly in conference with Edison, I made the acquaintance of nearly every inventor in the electrical line who was then at work developing the science of electric lighting. I recall Edward Weston, who was then the electrician for the United States Electric Lighting Company—a company which has since passed out of existence. He was exhibiting more particularly the form of incandescent lights which he had devised for the United States Electric Company. I recall also Charles Vanderpoel, who was exhibiting a miniature railway, having a car about the size of a hand-car, and using a single phase alternating current. It was quite a novelty at that time, but the machinery was so crude that it was hardly regarded as practical.

I recall electric arc lighting was then considered the best and most advanced.

I recall the machinery of the Thomson-Houston Company and their arc lighting system; also their attempts to create an incandescent lighting system, which was at that time not successful.

I recall also the fact that an inventor by the name of Sprague had on exhibition three or four electric motors of small size, which were connected to fans, and I finally, as superintendent of the exhibition, had to place a policeman in charge of this exhibit, because the people were so ignorant of the possibilities of running fans by
821 electricity that it was a favorite joke to lead both ladies and gentlemen up to this exhibit and turn the fan on them, sometimes creating a good deal of consternation, and disarranging clothing.

During 1884, when I was absent on leave from the University of Pennsylvania, a good many experiments were made by the exhibitors of the different forms of incandescent lighting and arc lighting, but as yet knowledge of electricity had not progressed to the scientific stage, and the exhibitors felt that the tests made were not fair. As a

result of this, I was retained by the Franklin Institute as chairman of their experimental committee, having charge of the world famous series of standard experiments made by the Franklin Institute during the year 1885, and published by them as authoritative. In 1887 I was retained by the Philadelphia Edison Electric Light Company to build for them the first great individual electric station in the world. It was to be of ten thousand horse-power, and was considered a very bold undertaking at that time, although, of course, now it would be considered a very small undertaking.

There were no precedents in existence at that time for the building of these direct stations, and so I had to call upon my personal knowledge in the designing of a station, and also to a less extent in the designing of the steam plant and of the electric generators.

I recall that at that time, the largest electric generator that had ever been built had a capacity of 500 amperes and a voltage of about 120 volts, and it was decided that we would make a great step forward and put in generators of one thousand amperes and 115 volts.

These were designed by John Kruesi, who was then Edison's right hand man,—afterwards of the Edison General Company at Schenectady, New York.

In all these questions of designing, in which I was intimately associated with Kruesi—with Edison—and with anybody else whom we could find who was supposed to know anything about designs, there never was any consideration given to the question of motive power. At that time the possibility of motive power being used on a small scale was already demonstrated, as I have referred to in the case of Sprague's motors, but they were not in use. It was a question of whether or no the inventors of motors could adapt their motor to the existing system of electric lighting.

Recalling as clearly as I can, I would say that none—not even Edison himself—ever mentioned to me any modification of the electric lighting station in Philadelphia for the purpose of meeting the demands of motive power.

Except as it might incidentally arise I had no thought of power and fully expected anybody who devised a motor to arrange his motor to make use of the incandescent electric light circuits which I put underground. If they could not use what was furnished for electric lighting, then there was no use of their talking of motive power to me.

In 1889, I had sufficient of the plant of the Philadelphia Edison Electric Light Company in operation to begin lighting up in the city of Philadelphia. About that time—1889—a very large crop of small motor inventors came to the front. I can recall a dozen different motors, most of which have passed out of existence since then, that were presented for my consideration.

Having gotten the Edison electric system into operation in Philadelphia, I was made engineer in chief of the Edison General Company of New York City, and my first duty was, as I recall it, to visit Schenectady, N. Y. to superintend and recompute, and, to a certain extent, redesign the street car motors required by the Richmond Street Railway system, which was then being put

in as an adventure by Mr. E. H. Johnson and Sprague, the inventor. They had a great many difficulties, but finally got it to going, although many of their motors broke down, so little was known of the art and science of designing motors, that they were not able to compute ahead so as to produce sure and safe results.

I have mentioned the inventors Edison, Weston, Vanderpool, Brush—but none of these men, with perhaps the exception of Edison, who built a small railway of his own—electric railway of his own—seemed to pay much attention to motive power.

For financial reasons the company formed by Charles Vanderpool for building electric railways, as well as for the reason that he was endeavoring to use the alternating current unsuccessfully, the Vanderpool system was abandoned, and I think Charlie afterward—Charles J. Vanderpool, died.

It was somewhat later than 1889 that I first heard that George Westinghouse had imported a man by the name of Nikola Tesla, who had devised a three phase motor, using three phases of the alternating system. This device of Nikola Tesla was largely advertised by George Westinghouse, and the statement was made that at last the problem of transmission of power by means of electricity had been commercially and practically solved for long distances and for large quantities.

824 In the meantime I had completed the Edison station of Philadelphia, and we had a good many hundred small motors attached to the system, direct current, three wire system, devised by Edison, and with the advent of the alternating current motor, we also became eager for the use of power of the direct current system, and after that—that is to say, some time after 1889, or thereabouts, the use of power commercially was pushed as well as we could do it on the direct current system, but we were always under the handicap with a direct current of having the copper wires required for the transmission to any considerable distance to become altogether too expensive to be used commercially. I think that is about all I can tell you in the way of a connected tale.

By Mr. LAMBERT:

Q. Since the date you have mentioned what has been your connection with electrical developments, inventions, and appliances?

A. In 1891, if I remember rightly, I was made President of the Philadelphia Edison Electric Light Company, and remained president, operating the company as engineer in charge, until 1896. In 1896 I resigned from the board and the presidency and became an independent consulting engineer, giving my attention to the construction of electrical apparatus. I am not sure as to the number, but I think that between 1896 and 1905, I was engineer, president or manager of some fifteen or sixteen different electric light and power companies, operating some of them, building others. Amongst those for which I made all the preliminary surveys and estimates was one known as the Inland Empire System of Electric
825 Railways running south from Spokane through the Palouse region, almost as far as Lewiston, Idaho. This alternating

system of electric railways is, I think, the longest and the largest in the world, hauling heavy freight, and heavy passenger trains, and regularly doing a business competing with steam railway business.

In 1905 I was retained by the City of New York as an expert in gas and electricity.

In the matter of electricity, Mr. Edison very kindly told John Lee, the vice-president, and real head of the New York Edison Company—

By Mr. McHUGH: I think that is hearsay—

By Mr. LAMBERT: He is giving the conversation.

A. To accept my figures on prices.

By Mr. McHUGH: That is all right; no objection to that.

By Mr. LAMBERT:

Q. What has been your connection since that?

A. And he did so.

Q. What further connection have you had up to the present time?

A. Since leaving my active employment in New York City I have been retained by the City of Minneapolis, Minnesota, for the purpose of adjusting the prices of their street lighting system,—by the City of Providence, Rhode Island, for the purpose of reorganizing and completely changing their system of electric street lighting there, and also by the City of Worcester, Mass., for the purpose of fixing the price of arc lighting, and of power, and I am still in the service of Minneapolis and of Providence, R. I. That brings it up to date.

By Mr. McHUGH: You are here now—got employment by the City of Omaha. That don't bring it up to date.

826 By Mr. LAMBERT:

Q. I will ask you to state your present residence—your home?

A. My home is at Westport, Essex County, New York State.

Q. Where is your office?

A. In the Park Row Building, New York City.

Q. For what length of time have you been engaged in New York City?

A. Since the year 1905.

Q. And your business there?

A. Is that of a consulting engineer.

Q. You may state the occasion of your being present in the city of Omaha at this time?

A. I was retained in 1911 by the First Assistant City Attorney for the purpose of making an appraisal of the gas works supplying the city of Omaha and reporting on the price.

Q. Will you please state again—I didn't get it—when you became first connected with the University?

A. In 1876, professor of dynamics in the University of Pennsylvania, Philadelphia.

Q. Before that time what was your business?

A. That of a practical engineer, doing engineering work on the Delaware, Lackawanna & Western Railway and on the Chicago & North Western Railway, being resident and constructing engineer of the La Clede Gas Company of St. Louis, Missouri; buliding glass furnace machinery and railroad machinery throughout the South—Alabama, Georgia, Tennessee, as I had the opportunity of employment offered.

Q. Are you a graduate of any institute?

A. I am a graduate of the Sheffield Scientific School of Yale.

Q. What year?

A. In the year 1870. In the year 1871 I took an additional degree of civil and mechanical engineer. During a
827 portion of that year I was sent abroad with a view to completing my studies in France, but that was relinquished because of the war.

Q. Now, during the time that you were connected with the University, as you have stated, Professor, was it part of your duties there to instruct in electricity and electrical developments, and if so, what phases or features did that instruction cover?

A. It was particularly part of my duty as professor to instruct in electric dynamics, teaching the students there the methods of computation required for the purpose of establishing electrical systems for the transmission of electricity for any purpose that might
ne required.

Q. Did you keep in touch during that period of time with the developments of electricity, and the inventions and appliances?

A. I spebt so much time and specialized so much on electricity that Mr. J. Vaughn Merritt, Chairman of the Trustees, took occasion to expostulate with me as to the amount of electrical dynamics which I was teaching, saying at the time that it would be much better to give more steam and mechanical engineering, as electricity was of but very limited capabilities and adaptibility to commercial purposes.

Q. You remained in the service of the University actively until 1883?

A. 1887.

Q. During the year 1883, as I understand your testimony you have already given, you took charge of the Franklin Expo-
828 sition?

A. I did.

Q. Was that '83 or '87?

A. '83-4- and 5.

Q. Beginning in '83?

A. Yes.

Q. Now what were your relations with that exposition?

A. I was the supreme authority in all technical matters.

Q. What was your title?

A. Relating to electricity?

Q. Your official title?

A. Superintendent.

Q. Did that give you charge of the installation of the exhibits?

A. Every exhibit was installed under my direction.

Q. What examinations were made of the exhibits, if any, prior to the installation, or were there ever discriminations made?

A. We were glad to take anything and everything that came to us; we handled them as well as we knew how, and furnished every possible facility.

Q. Were you present during those years at that exposition, personally?

A. During the year 1884 and during the exposition I was present every hour that it was open. I presume that in 1883 I gave about one-half my time, and in the year 1885 I gave the whole of my time to these laboratory series of experiments.

Q. Was there any exclusive exhibit there, or exhibit exclusively intended for the purpose of displaying the application of electrical current for power purposes?

A. There was but the one exhibit—of Charles J. Sprague, 829 in which a min-ature series of fans were operated by small motors to show that the eletricity could be used for that purpose.

Q. Did you know of its application prior to that time to the purposes for which it was exhibited at that exhibition?

A. It was at that time a novelty to everybody, as the actions of the people in the exhibition showed when I told you I had to put a policeman there to stop the constant noise and uproar that arose from the surprise of the people to see these motors driving the fans.

Q. Had you personally known of this invention or appliance for this particular purpose before its installation?

A. I had received a written notice or discussion of the topic at the time that Sprague was endeavoring to obtain patents, being brought to my attention by Edison. I had not seen anything.

Q. How long, did you state, before the beginning of the exhibition?

A. Within the six months or a year preceding '84.

Q. At the time of the exposition did you know of electrical current being successfully and commercially applied to the production of power?

A. I never was until—I never saw anything of that sort or saw anything by anybody else than just such a demonstration as perhaps Wright's first flying machine made, as compared with the present special machinery—it showed the possibilities; the commercial economy was a question that never came up.

Q. In your work with the University and the Franklin Exposition did you keep in touch with the literature of the time with respect to electrical inventions and experiments?

830 A. I did; I had unusual facilities for so doing. The exhibitors at this exposition, at the close of it, selected from Europe, and wherever it could be obtained, an exhaustive electrical library which they presented to me, and which was in my possession at the end of 1884, and, of course, as I was constantly in

contact with the inventors I couldn't help but know all about the current literature and the current inventions.

Q. Did you know of any successful commercial application of electrical current for power purposes prior to the year 1884 and including the year 1884?

A. I didn't know of any that could be called of commercial importance on this side of the Atlantic.

Q. At the Franklin Institute—or Exposition, I mean, state what was the apparent purpose, or the principal actual purpose, if you know it, of the demonstration of the features of electricity, or what feature of the application?

A. As superintendent I understood the object was the presentation of electric light in its various forms.

Q. And the current was known as the current is now distinguished, from direct and alternating?

A. Both the direct and the alternating current were on exhibition there; the great bulk of the current was generated for use as direct current; the only alternating current which was used at that time was the one which Charles J. Vanderpool had gotten out and attempted to apply to his electric railway motor. The peculiarity of this motor, which was a single phase was, that the moment you started it there was a halo of electric flashes and sparks which flew off the motor as the car moved away. One of my assistants, I remember, told me, it might have been——

831 Mr. McHUGH: I don't know whether——

A. That it was dangerous.

By Mr. McHUGH: Of course, you understand what someone told you is incompetent testimony.

A. I might mention that Professor Edwin Houston and Carl Herring both of whom are known as electricians, were my assistants and subordinates at that time, carrying out my instructions.

Q. Houston have any relation to the Thomson-Houston Company?

A. Yes, he had been a professor in the High School of Philadelphia.

Q. Now state what current at the present time is usually applied to the production of power, what do you call it?

A. Three phase alternating current is the one and only recognized method of transmitting power in large quantities for commercial purposes.

Q. Has the direct current ever been successfully commercially applied for the production of power?

A. As a commercial proposition I should say it had not.

Q. Do you know when the three phase alternating current system was perfected so that it might be employed in the production and use of power?

A. It was, if I remember rightly, about 1889, or a little later that Nikola Tesla's three phase motor was put on the market by George Westinghouse.

Q. What was the nature of the current that was first used in the Philadelphia plant—I have forgotten its name?

A. Philadelphia Edison Electric Light Company—it was a three wire direct current.

Q. What was its use for—that is, its exclusive use?

A. In the production of electric lighting direct current was used.

There were motors attached. If motors were attached
832 to that system——

Q. If motors were attached to that system, I mean, the motors had to feed as a motor, to the system?

A. The system was not alternating for the purpose of transmitting power.

Q. Before 1889 did you know of that company having any power customers—customers who used current for power purposes exclusively?

A. The Philadelphia Edison Electric Company started up in 1889, and started up exclusively on electric light, without any motors attached, but within a year or so thereafter, there were a large number of small motors devised, and they were all offered to me for my approval for the purpose of attachment to the wires of the Philadelphia Edison Electric Light Company.

Q. How long did you remain in charge of that company?

A. Until '96.

Q. In the same capacity?

A. I was made president in '90 or '91, I forget which.

Q. But you remained engineer just the same?

A. Yes.

Q. For what purposes were those motors employed?

A. Almost entirely for fans; sometimes for small elevators.

Q. Now, Professor, I will ask you to state if you can, when those closely associated with the electrical questions, and inventions, and the inventions of machinery for its application and use, first regarded the application of electrical current for power purposes as commercially practical?

A. It began about 1890 in a small way.

Q. What was generally known before that time as to the practical commercial use of current for power purposes?

833 A. The layman——

Q. General known throughout the countr?

A. The layman knowing electricity regarded it as a novelty—something rather startling, and so far as I know hesitated a good deal before putting it in, and then used it only on a small scale.

Q. After your connection with the Philadelphia plant I believe you stated you had official or close relations with something like 15 or 16 companies at various times?

A. Yes.

Q. During that period of time what sections of the United States was that confined to—the east or the west?

A. My electrical work ranged all the way from Spokane to the Atlantic ocean, and was principally done in Omaha and Pennsylvania, a series of small electric light and interurban railways being

taken up and either put through by me, or taken hold of and organized and operated.

Q. During your connection with these several companies—what power or current was used—current to be successful commercially for power purposes?

A. Yes.

Q. Did you at that time or while you were connected with the Philadelphia plant have anything to do with the making of contracts with customers, or making contracts with other companies in relation to the distribution and utilization of current?

A. I did. I have been from the outset a specialist in the matter of making contracts and rates in electricity being the man who originated the methods of making rates for electricity and making contracts based on those rates.

834 Q. When did this work begin?

A. At the start of the Philadelphia Edison Electric station when I had to sell the light and sell the power to people who applied for it.

Q. Professor Marks, when did you say that the profession in electrical inventions, and dealing with appliances, electrical engineers, and the installation of apparatus, first regarded the utilization of current as commercially practicable for power purposes?

A. That is a little difficult question to answer, because in 1887 there were no electrical engineers. There was nobody, if I remember rightly, who could be called an electrical engineer. Who antedated Mr. Carl Herring—he having been my assistant for four or five years.

Q. Omitting the question of whether they were electrical engineers or not—those men familiar and intimately engaged in that sort of work—when would you say it was first considered that the utilization for power purposes was commercially practicable?

A. I should say in the neighborhood of 1888, or thereabouts. They first began to come before me and say they could do it practically. You remember I was at that time the only technical man in this product in Philadelphia.

Q. Assuming that in December, 1884, the city of Omaha, in the state of Nebraska, granted to an electric light company the right of way through its streets for the erection and maintenance of poles and wires, with all the necessary appurtenances, for the purpose of

transacting a general electric light business, in your judgment
835 and opinion would the terms "general electric light business" comprehend and include other than the generation and distribution of current in the production of light?

By Mr. McHUGH: Objected to as incompetent, irrelevant and immaterial; calling for a conclusion of the witness.

A. If I were dealing with a city council and city official I should understand that as meaning light and nothing else, being sure that their knowledge of technical electricity was too meagre to enable them to grasp the fact that power, at least, in a commercial way, would have amounted to anything.

Q. Assuming the facts stated in the foregoing question, would the use of those terms "general electric light business" in a grant at that time, and in the then existing state of general knowledge with reference to the use and employment of electrical current, comprehended and included the generation and distribution and employment commercially of current for the production, utilization and application and in the production of power and heat for such purposes?

Mr. McHUGH: Objected to as incompetent, irrelevant and immaterial; calling for a conclusion of the witness.

A. That is a very hard question to answer,—in its general aspect, probably a legal question. In my own case, reading the phrases, I should say it was intended only for electric lighting. If I should tell you my chain of thoughts in connection with that matter it is this. If you got beyond electric light and attempt to include heat and power, then you get into the phase of electrical chemistry utterly unknown at that time. Vast quantities of electricity are used for chemical purposes in the production of chemicals on a very large scale, and undoubtedly there will be other uses found for electricity than those mentioned. The reason that I would interpret that phrase as meaning light alone is that if you go beyond that you almost step off into the infinite.

836

Q. Beyond light?

A. Yes.

Q. In the light of the knowledge that then existed?

A. Yes.

Q. Assuming the facts as stated in the question first above asked, and taking into consideration at the time of the development of electricity, and inventions, and developments of appliances for its production, distribution and use, and taking into consideration also the extent to which such developments application and use have generally become known, and taking into consideration the purposes for which the electric current at that time was commercially used, would you say that a municipality in arriving at the terms aforesaid "general electric light business" intended thereby to give to the grantee the right and authority to generate and distribute current for other than lighting purposes?

By Mr. McHUGH: Objected to as incompetent, irrelevant and immaterial; calling for a conclusion of the witness. He has already answered that.

A. As I have already explained, I should say that lighting alone was intended.

Q. Again, assuming such to be the facts as stated in the foregoing questions, and taking into consideration the general knowledge, or the general want of knowledge at the time of the commercial application and use of electricity for the production of power, state whether or not in your opinion the municipal authorities would be possessed of any knowledge whatever with reference to the application and use of current commercially to machinery, and in the production of power?

837 By Mr. McHUGH: Objected to as incompetent, irrelevant and immaterial; calling for a conclusion of the witness.

A. Pardon me for saying, I do not believe they even suspected the possibility of the transmission of power.

Cross-examination.

By Mr. McHUGH:

Q. You say that from the beginning of the development of knowledge with respect to the application of electricity—certainly after the year 1870—you were in close and intimate connection with the development of the art?

A. After the year 1878.

Q. Not only with the development of the art, but the literature respecting the development of the art?

A. I was at that time very much interested—following it eagerly.

Q. And you had exceptional facilities for following the literature?

A. Oh yes.

Q. Did you attend the first electrical exposition which was held in Paris in 1881?

A. I did not.

Q. Did you follow it through the current literature to know what was developed?

A. I followed it through the current literature carefully; read it in the French to a large extent.

Q. Therefore, you got the original, first-hand information respecting it?

A. Yes.

838 Q. Did you know that in 1881 in that exposition motors were exhibited in successful operation?

A. In 1881, if I remember rightly, as an experiment two dynamos were connected up by means of wires, and one of those dynamos, being driven by means of an engine, transmitted its current to the other dynamo, which reversed itself, and acted as a motor, and which was the very first this fact was known and it was a very great marvel.

Q. So that in 1881, in the British Exposition, the application of electricity to the production of power was evidenced by appliances in operation?

A. Yes.

Q. Were you at the second electrical exposition which was held at the Crystal Palace in London in 1882?

A. No, sir.

Q. Were you familiar with what was exhibited there?

A. Yes.

Q. It is also true that the application of electricity to power was illustrated by machines in actual operation in that exposition in London in 1882?

A. Yes.

Q. It is also true, is it not, that in 1883 and 1884 an electric railway was in operation in Germany?

A. On that point I am not posted.

Q. You don't know about that?

A. No.

Q. Now, you visited Menlo Park?

A. In 1878.

Q. Did you visit it in 1880?

A. I think by that time Edison had moved or was about to
839 move to Lewellyn Park.

Q. Which was the last date you visited Edison's Plant at
Menlo Park?

A. I couldn't say.

Q. That plant was both utilized in actual commercial operation
and an illustration of the system?

A. Yes.

Q. It was installed and operated apart from the commercial operation
of Edison's plant, to illustrate the Edison electric light system,
wasn't it?

A. Yes.

Q. Edison claimed to be the first man—to have a complete system
which he called the Edison electric light system?

A. That is entirely correct.

Q. And that system was in full operation at Menlo Park?

A. It was when I saw it.

Q. He had his laboratory there?

A. Yes.

Q. And in that laboratory he had his appliances for the generation
of electricity?

A. Yes sir.

Q. On the second floor of that laboratory he had two machines
operated by motors, the one——

A. I never saw them in operation; I was so told.

Q. But you didn't see them?

A. No sir.

Q. Did you go over to the Edison lamp factory where he made
the incandescent lamps?

A. At Morris, New Jersey?

840 Q. No, sir; at Menlo Park?

A. No, sir.

Q. That factory was about three quarters of a mile, or thereabouts
from the laboratory?

A. Yes.

Q. Isn't it a fact that, or did you know whether it was a fact or
not, that at that time in that lamp factory there were seven machines
operated by electric motors?

A. As I told you, I didn't visit it.

Q. And you have no knowledge of it?

A. No sir, I have no knowledge of it.

Q. Did you know that at that time in that lamp factory, a large
number of electro plating vats were used, and that the electricity
generated at the laboratory and distributed through his system of
distribution was utilized in those electric vats to work at electro plating?

A. Oh yes.

Q. And was there a chemical use of electricity?

A. Yes sir.

Q. Did you know at that time that he had meters for registering which utilized the electro-plating device?

A. I certainly did.

Q. Did you know in these meters—many of them being placed in cellars, and exposed places, he had an electric heating lamp placed attached to a thermostat so that when the temperature became low it turned on the current to the light and raised the temperature to the point when it was shut off?

A. I used all those meters such as you have described in the Philadelphia Electric Light—

841 Q. I am speaking now of whether you knew that appliance was in use at Menlo Park?

A. '78.

Q. I think it was later myself; I am asking whether you knew at any time at Menlo Park whether they were there in use?

A. I discussed the matter of the necessity of meters with Edison in the eighties not once, but many, many times.

Q. The point I am simply directing your attention to was whether you knew as an actual fact of that application—'79, or '80, of Menlo Park of electricity from this system to heat these lamps?

A. Oh yes.

Q. You knew that?

A. Yes sir.

Q. So that you knew that at Menlo Park in '79 or '80?

A. Pardon me for correcting you; subsequent to '78 and before '87 there is a long interim there; at this time I certainly cannot identify dates.

Q. I will ask you this—can you say that prior to 1884 you knew that in this operation of the Edison system of electric light, as displayed at Menlo Park, the electricity generated at the Central Station for distribution was practically utilized for light and heat and power?

A. I did.

Q. Now, did you in following the literature on the subject, read, or have any knowledge of the publications of the Board printed by the British Parliament near 1880—prior to 1884?

A. I think you mean Board of Trade.

842 Q. The British Board of Trade, with respect to the propriety and commercial practicability of permitting the installation of central generating plants for the generation of electricity together with a distributing system to carry that?

A. I not only had a good deal of information, but I remember the installation in London of a station of some 2500 horse power under the permission of the Board, and which I watched with a great deal of interest.

Q. Pardon me, my question is, are you familiar with the reports made by this committee as to the practicability of the installation of these central generating and distribution systems?

A. It is a long ways back to remember, but I think I had everything on the subject at that time.

Q. Now do you remember that in these reports, which consisted in part of the testimony of every eminent scientist on the committee, the practicability of electricity to power purposes and heating purposes was recognized?

A. Oh yes.

Q. And in these discussions, which were long prior to '84, which I have mentioned, the methods by which the electric current could be made available to a community for light and power and heating for commercial purposes was recognized to be through the central generating plant with a distribution system?

A. I recall a number of discussions—I think Edison taking part in them at that time, and those very papers, and I recall also my own opinion was that they had not yet reached the point at which they could be considered commercially profitable.

Q. I am speaking now of this precise question, Professor—whether in these reports of this committee, as published, the functions of these electric light companies that were to be given the right to install and operate a central generating and distributing plant, was not recognized as a function by which electricity and electrical energy for all purposes for which it was adapted, was to be made available to the community?

A. As a technical matter it was much discussed; the possibilities and probabilities was also discussed. As a commercial matter I remember very clearly that personally I never considered it as worthy of the attempt to make money out of it.

Q. I understand. The point I am getting at is not necessarily whether you agreed or not, but whether these things I have stated in my previous questions, were set forth in those reports?

A. They were, yes.

Q. Now then, the first, or rather, one of the first—not the first—one of the first plants to be installed in the United States whereby electric energy was to be generated at a central station and distributed throughout the community was the plant installed by the Edison Electric Illuminating Company in the southern part of New York—one of the earliest ones—in 1882?

A. I think the very first one was in Sunbury, Penna.

Q. I am speaking of the one in New York—it was one of the early ones?

A. Down on Pearl street in New York City.

Q. That plant was designed to supply and did supply with electric energy a certain part of New York City?

A. The commercial district there.

Q. There was a great deal of publicity given to the plant when it was installed and previous to its installation?

A. A great deal.

Q. It was very much discussed in full in the technical journals, and also in the papers of New York?

A. Yes.

Q. And it is true, is it not, that in the publication, both in the

technical journals and in the daily press at the time of the opening of that Edison Illuminating plant in New York, in 1882, and immediately prior thereto, it was discussed, and stated that that plant would not only furnish light at night but power by day, wasn't it?

A. I read many of those publications which were principally devoted to the force and beauty, and the sanitary qualities of the electric light. I do not recall any discussion of power, but if it was discussed it was merely as an incidental. P. B. Shaw of Williamsport, Penna., was the man in charge there and a close personal friend of mine, and I knew that the light was the one thing that he hoped for profit from.

Q. Don't you know also that power was one of the things that he intended the customers would utilize—a great many of them—didn't you know that?

A. I remember that he told me the difficulties that stood in his road of obtaining day loads.

Q. Don't you know that that was in contemplation at the time that plant was installed—that they would have their current utilized by illuminant and for power?

A. From '81 on all technical electricians were striving to be first in the field with power, and we finally got it practical.

Q. So that every plant from '81 on, that was installed, so far as you know, the applicability of the current for power purposes, and the hope and intention that it should be so used?

845 A. I think we urged for appliances that would work it out. I would judge that phase merely from technical men, and was well posted from '81 on—had in mind the possibility and hope of commercially selling power.

Q. Now, you say you don't recall the publications in connection with the opening of these plants, or granting of the franchises with respect to the use of it for power; let us come now to 1884—you were superintendent of the exposition and in charge of the electrical department?

A. Yes. In charge of the whole exposition.

Q. You were in charge of the electrical part of it—that is enough for our purposes here?

A. Yes.

Q. Now, it is true, isn't it—leaving Sprague out of it now—that there were four systems of electric lighting exhibited in that exhibition—one the Edison system of electricity—or electric lighting; another the Brush system of electric lighting; another the Thomson-Houston system of electric lighting; and the other the Weston system of electric light?

A. That is it.

Q. That is true?

A. Yes.

Q. It is also true that each one of these in its exhibit in that exhibition embraced as a part of their exhibition a motor in operation?

A. I don't recall that the Brush system had a motor in operation, or that the Thomson-Houston system had a motor in operation.

Q. The Edison system had one or several of them?

A. The Edison system had a shunt wound bi-polar dynamo reversing and used as a motor on a small scale.

Q. It run sewing machines?

A. I don't recall for what use.

Q. It was a practical exemplification of its use in running machines?

A. The motor itself was running, because I remember connecting it up a number of times myself.

Q. Didn't you print, or wasn't there printed and published under your supervision a report by the Franklin Institute of the exhibit?

A. Yes.

Q. And in that report didn't you state that those motors were running machinery?

A. Very probably it was so stated.

Q. Is it was so stated, it was a fact?

A. Yes, you will find my name on the title page.

Q. Now, the people were surprised when they saw these fans going?

A. Yes.

Q. Surprised at the utilization of electricity for power?

A. Yes.

Q. After a man saw it once, of course, he was not surprised—the next time he knew it would run?

A. That is true of all novelties.

Q. So that as a matter of fact that exposition was a mere educational force?

A. Indeed it was.

Q. It was designed for that purpose?

A. Yes.

Q. Visited by thousands of people from all over the country?

A. I think several hundred thousand.

847 Q. And the people that came there they were surprised when they first saw these uses of electricity for purposes other than light, but they went home with knowledge on the matter that electricity was utilized for other purposes?

A. Yes.

Q. So that it performed its function of educating to a very large degree—certainly a satisfactory degree to the promoters?

A. Yes.

Q. And the subject of information was not only true—the reports that the hundreds of thousands of visitors made as they went home and talked about the wonders they seen, but it was also made effective through publications in scientific and daily journals?

A. That is correct.

Q. As a matter of fact that exposition marked a distinct era practically in an electrical way?

A. Yes, it was the first international one; it attracted a great deal of attention not only from the people that went through—

Q. But the press of the country generally, as well as the scientific

journals gave a great deal of space to it, and detailed the exhibits, and the wonders that were on display, didn't they?

A. Oh yes, we took particular pains they should do so.

Q. In other words, that was your function?

A. Yes.

Q. It was an educational function?

A. Yes.

Q. And the purpose was that the scientific men were to give an example to the world, and to the people, of the advance
848 in the arts of electricity?

A. Yes.

Q. And you took every way possible to distribute that information as best you could?

A. Yes.

Q. That was the purpose of the exposition?

A. Yes.

Q. It wasn't opened to make money?

A. No, sir.

Q. It is true, isn't it,—it has been recognized from the beginning, we will say from the first time you commenced—1878—that electricity had adaptability to popular and general use in various ways that was recognized?

A. Fully recognized by those conversant with it.

Q. And it was also recognized by those conversant with it that the way in which those uses of electricity should be made available to a community was by the installation of central energy plants, and distributing systems?

A. Yes.

Q. Now, when you installed the plant in Philadelphia, it was a plant of the Edison Electric Light Company?

A. Yes.

Q. And you installed and operated it?

A. Yes.

Q. You recognized your function, and the function of that company as the generation and distribution of electricity?

A. Yes, sir.

Q. And the predominant use that it was put to by the customers was the production of light?

A. Yes.

849 Q. When a customer brought a proper motor to you and it was properly attached it was recognized as a part of your functions?

A. I was very thankful to get motors for they hung on for ten hours a day?

Q. Good customers?

A. Yes.

Q. It was recognized as part of the function of that Light Company—a development of the function of the company?

A. Yes.

Q. Now in 1884 Sprague had his motors on exhibition in Philadelphia?

A. Yes.

Q. He had no system of electric lights; he simply had a motor which was an appliance to create the current into power?

A. Yes.

Q. Now that motor of his was a practical thing wasn't it?

A. Apparently, yes.

Q. It manifested itself as a practical thing didn't it?

A. Yes, but not as a profitable thing.

Q. As a practical thing?

A. It actually operated.

Q. Now, I don't care Professor, to go into any learned—it will be the opposite of learned on my part—with respect to the details of a central and distributing system, and the various kinds of current that are to be utilized, but isn't it true that in 1884, motors were in use commercially by commercial houses in the carrying on of their business, in the operation of machines that were run, and got their current from the Brush arc light circuits—don't you know that?

850 A. I am trying to recall what was doing in Philadelphia.

Q. I am putting it in Philadelphia.

A. In 1884 there was a Brush electric light station there, recently put in, and I know that they were lighting Chestnut street—the principal street in Philadelphia—for nothing for a year—the money being put up by Mr. Thomas Dolan—

Q. You think that is an answer to my question?

A. If you will allow me to go on?

Q. Do you think that is an answer to my question?

A. It is if you allow me to go on; you can't answer a technical question with yes or no; subsequently there were motors put in; I can't fix the date; I think that was subsequent to 1884 for my attention was frequently called to their impracticability, and the extreme danger due to the high potential of the current.

Q. As a matter of fact, in 1884, Wannamaker's—Wannamaker & Bros. in Philadelphia were running motors to run sewing machines in the manufacture of clothing, attached to the Brush arc light circuit, running them as a commercial proposition, in a commercial way; if that was done in 1884, then you are mistaken about—either you don't know about it, or you are mistaken in your dates, aren't you?

A. If done it was an extremely dangerous and uncommercial proceeding, as I know for a fact these high potential motors—

Q. Did you know that in 1884, the Edison Electric Illuminating Company of New York furnished current which was utilized by customers regularly in a commercial way for operating motors?

A. For what purpose?

Q. I am saying operating motors—did you know they were operating motors?

851 A. I knew that they were operating motors outside from the Pearl street station, and I knew as a commercial matter there was constant trouble and dissatisfaction.

Q. But they were operated from the very beginning?

A. The promoters were always at it?

Q. They constantly recognized that as a part of their functions, and they simply, so far as they could, utilized all motors by customers, didn't they?

A. They urged it wherever they could find any one that would let them try it.

Redirect examination.

By Mr. LAMBERT:

Q. These reports to which your attention has been called—the British Board of Trade reports—were they generally *dissiminated*, or the circulation confined to the technical men?

A. I recall that I had much difficulty in getting the reports of the British Board of Trade—considered it difficult and very lucky to get them at all.

Q. Now in the London Exposition, to which your attention was called, do you recall to what extent the nature of the motor demonstration that was made there?

A. I regarded it as purely technical and theoretical and as not worthy of practical adoption at all.

Q. The commercial side had been worked out?

A. It hadn't at that time been worked out that it was economical to use these motors.

Q. As a matter of fact in the London Exposition, the application of electrical current and power was made wasn't it simply in running a large weight?

852 A. That I can't say.

Q. Now again drawing your attention to what you observed and saw in Menlo Park at your visits there, you were asked if you knew that electricity was practically applied for power purposes—have you any explanation to make with reference to that?

A. Nothing except this that so far as the commercial aspect of anything was concerned, Edison's actions did not and would not have the slightest effect upon me. I was there for the purpose of finding out the commercial side of incandescent electric lighting, and devoted myself to that; the fact that Edison was using a motor or a number of motors there wouldn't for one moment suggest to me, or prove to me, that there was any commercial merit in it whatsoever.

Q. The plant that he had in operation there was a central energy plant, wasn't it?

A. It was.

Q. As I understand your answer to Mr. McHugh's question it covered the utilization proposition—demonstration purposes?

A. Yes.

Q. Do you know whether or not utility application motors were used, or were the motors confined to demonstration purposes?

A. They were shunt wound bi-polar dynamos, reversed in their direction, and allowed to turn over or operate something, regardless of whether economical or not, for temporary purposes.

Q. Did you know, as a matter of fact at that time whether or not

they were applying any operating machinery—or were attached to operating machinery?

A. For useful purposes.

Q. Yes?

By Mr. McHUGH: He said he didn't know.

853 A. I didn't visit the place; I was told so. May I explain to you the reason of my mental attitude on the subject of motive power?

Q. I don't know about that. Your individual—were all the plants installed at that time confined largely to the Atlantic coast?

A. So far as I knew and believed one plant at Tiffin, Ohio, which was amongst the very first.

Q. What was the nature of that plant?

A. That was an Edison electric plant—the Edison dynamos three wire system.

Recross-examination.

By Mr. McHUGH:

Q. When was that Tiffin plant installed?

A. Slightly ahead of the Philadelphia Edison plant—it was begun in 1887.

Witness excused.

854 WALDEMAR MICHAELSEN, a witness, called on behalf of the respondent, after being duly sworn, was examined in chief by Mr. Lambert, and testified as follows:

By Mr. LAMBERT:

Q. You are the city electrician?

A. Yes.

Q. For what length of time have you held that position?

A. About eight years and a half.

Q. Before that time what was your business?

A. Electrician; electrical engineer.

Q. How long have you followed that calling?

A. For 26 years.

Q. Are you a graduate of some institution?

A. University of Copenhagen.

Q. From what department?

A. Electrical course.

Q. What year?

A. In 1890 completed.

Q. Since that time you have followed your profession?

A. All the time, yes, sir.

Q. Actively engaged in the work?

A. Yes sir.

Q. Are you familiar, Mr. Michaelsen, with the appliances for the utilization of current since leaving school?

855 A. I am.

Q. Were you familiar prior to the time of getting out of school?

A. Yes, at least four years before graduation, because I worked at electrical work since 1886.

Q. And at what place?

A. Copenhagen, Denmark.

Q. When did you leave Denmark?

A. 1890.

Q. Coming to this country?

A. Yes sir.

Q. Electricity at this time is successfully used in the production of power?

A. Yes.

Q. How long has it been successfully used in the production of power?

A. I would say that it has been extensively used for power since between 1895 and 1900; a little difficult to just know what is meant by extensive use?

Q. I will change the question and say generally used and applied commercially successfully in the production of power—will that aid you?

A. Well, I think I would say about that some time.

Q. Beginning of 1895?

A. Yes.

Q. Prior to that time, Mr. Michaelsen, to what extent was it generally used commercially in the production of power?

A. Prior to that time it was commercially used, but was hampered by the fact that direct current was mostly used for motors, and direct current is not suitable for being transmitted any
856 great distance. Therefore the production of power was practically limited to direct current motors, and the distance from the central station with such motors as could be operated.

Q. What was the extent of the use of current for power purposes in 1886?

A. In 1886, from my own personal knowledge, current was only used for motors in a very minor way; hardly experimental; partly for driving—there were some motors.

Q. How about the extent of those used at that time?

A. Well, it was more of a curiosity than practical use, although it was used for fans; for driving small machinery, such as lathes, and such as that.

Q. That was in isolated instances or quite generally?

A. I would say that was anywhere where current was available—through a city, or wherever current was available.

Q. Now, in 1884, two years prior to the date you have testified to, what would you say was the development and use of electrical current and its utilization, commercially, or otherwise, in the way of power purposes and uses?

A. I would say that it was used some, but limited by certain restrictions and efficiency of motors. In other words, we knew that

we could produce power by motors, but it was not—it had not been developed into what you might call a science, or in the measure that it has now been developed. But we knew that we could use current for power, and it was used to a limited extent.

Q. Was it commercially and practically used at that time to any considerable extent?

A. Well, I think I will answer that question no, although, 857 of course, it is a very flexible question; I think I should have to answer it no.

Q. When you say you knew it could be used is that experiments had determined that fact?

A. Yes.

Q. But, as a matter of fact and practical application to commercial uses, it was not known was it successfully?

A. Not extensively.

Q. Wasn't it largely in its nature at that time a curiosity and novelty—its use?

A. Well, I would answer that question yes, because that would cover almost any kind of electrical apparatus in those days.

Q. The application, however, for lighting purposes, and the inventions of appliances and machinery for lighting purposes had developed fairly well?

A. It had developed probably more than motors, but I still think it was something of a novelty, even the lights.

Q. Even the lights?

A. Yes.

Q. Do you recall any incidents of that character where the novelty of it developed?

A. Yes, I remember in building a bridge in Copenhagen; I think that is about the first time I saw electric light, but they were in a hurry to build the bridge—I know that is very uncommon in Europe to be in a hurry—but this bridge was badly needed and they decided to work day and night on it, and they employed four arc lamps for that purpose of working nights, and people from the greater part of Denmark came to see this wonder of turning night into day.

Q. What year was that?

A. That was I think in '83 or '4. 858

No cross-examination.

Witness excused.

859 In the District Court of the United States for the District of Nebraska, Omaha Division.

DISTRICT OF NEBRASKA, ss:

I, H. E. Kelley, Examiner of said Court as per stipulation hereinbefore set forth hereby certify that the foregoing testimony in the above entitled cause was, pursuant to stipulation by and between the parties hereto, as such stipulation hereinbefore appears, taken

before me at the time and place in the record thereof indicated; that before testifying, each of the several witnesses was by me severally duly sworn to tell the truth, the whole truth, and nothing but the truth; that said testimony was taken in shorthand by myself, and by myself transcribed, as hereinbefore set forth; that by stipulation of parties the signature of each of said witnesses to their respective depositions, was waived.

[SEAL.]

H. E. KELLEY,

Examiner of said Court as per Stipulation Above Referred to.

Endorsed: Filed July 12, 1912. R. C. Hoyt, Clerk.

860

Index to Volume No. 3.

	Page.
Stipulation as to testimony.....	564
Deposition of Joseph McGuire	566
(See page 814 for exhibit 1.)	
(See page 807 for exhibit 2.)	
Exhibit 3, Ctf. organization Om. Elec. L. & P. Co.....	576
“ 4, Bill of Sale, “	582
“ 5, Franchise assignment.....	584
“ 6, Copy of Deed.....	589
Agreement that exhibits L. N. O. & P. to Bill correctly sets forth mortgages	595
Exhibit 7, Opinion Sup. Court, Neb.....	596
“ 8, “	605
“ 9, Portion of brief appellant, in re Neb. Tel. Co. v. City of Fremont.....	615
“ 10, Portion of brief appellee, in case last above mentioned	622
“ 11, Opinion Sup. Court, Neb. in re City of Plattsmouth v. Neb. Tel. Co.....	624
“ 12, Brief of appellee in case last above mentioned.....	636
“ 13, Portion of brief appellee in case last above mentioned	638
“ 14, Opinion Sup. Court, Neb. in re Caldwell v. Lincoln Street Ry. Co.....	663
“ 15, Opinion Sup. Court, Neb. in re Caldwell v. Cit. Street Ry.	692

861

Exhibit No. 16, Article from Omaha Bee.....	701
17, Editorial, Omaha Bee.....	702
18, Article from Omaha Bee.....	704
19, “ “ “ Herald.....	706
20, “ “ “ Daily Herald.....	706
Deposition of Henry A. Holdrege.....	708
“ “ Minor R. Huntington.....	726
“ Arthur C. Smith.....	731
“ Thomas C. Byrne.....	737
“ Clyde L. Babcock.....	742
“ Louis Kirschbaum	746

(See page 791 for Ex. 21.)

Exhibit 22, Article from Scribner's Magazine.....	758
“ 21, List of Power customers.....	791
“ 2, Art. Incorp. New Om. T. H. Elec. L. Co.....	807
“ 1, Incorporation of Old Col. T. Co.....	814
Stipulation as to deposition.....	817
Deposition of William Dennis Marks.....	819
“ Waldemar Michaelson.....	854
Certificate of Clerk.....	862

862 UNITED STATES OF AMERICA,
District of Nebraska, Omaha Division, ss:

I, R. C. Hoyt, Clerk of the District Court of the United States within and for the District of Nebraska, hereby certify that the foregoing record marked “Volume No. 3” is a part of the record in the case of Old Colony Trust Company v. The City of Omaha, No. 130 “Z,” and is the volume referred to as Volume No. 3 in my said Certificate found on page 229 attached to Volume No. 1.

Witness my hand and the seal of said Court at Omaha in said District this 2 day of August, 1912.

[Seal United States District Court, District of Nebraska,
Omaha Division.]

R. C. HOYT, *Clerk.*

Endorsed on cover: File No. 23,329. Nebraska D. C. U. S. Term No. 754. Old Colony Trust Company, appellant, vs. The City of Omaha. Filed August 7, 1912. File No. 23,329.